

Accounting Reviews

That Thing Which the Accountant Calls Income

GEORGE R. HUSBAND

The Public Accountant of Today and Tomorrow

JOHN W. QUEENAN

Education for Public Accounting on the Collegiate Level

H. T. SCOVILL

Statistical Controls Applied to Financial Statements

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By John L. Carey

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THAT THING WHICH THE ACCOUNTANT CALLS INCOME

GEORGE R. HUSBAND

INCOME, in general, is a variable concept concerning which there has been considerable debate without a great deal of final agreement. Within the framework of historical accrual accounting, however, if allowance is made for variations in procedure and for different methods of computation, the concept of income appears to be accepted as indicative of something fairly specific. The accountant interprets it to mean the increase (or decrease) in proprietorship which results from the operation (and the accompanying nonoperating income earning activities) of a business during a specifically designated interval of time. The income of historical accounting is thus usually thought of as a credit addition to an equity item, the balance of the sales credit (plus or minus nonoperating adjustments) which remains after the operating costs and expenses have been cancelled against it.

There is ground for believing, nevertheless, that this is not an entirely satisfactory concept of the income situation. In economics and in the vernacular the term "income" usually refers to goods and services. The emphasis is upon assets, often more specifically upon cash, rather than upon the resulting technical accounting increase of a specific equity. The average businessman's concept of income is also much more likely to be that of the vernacular than it is to be that of technical

accounting. Things, assets, cash (with the equity effect assumed) are much more apt to dominate a businessman's thinking than the accounting equity effect of a period's operations. In fact, it sometimes appears that accountants themselves think of assets, cash, when they speak of income.

It is the mechanics of the accrual system which places the income emphasis upon the equity effect of operations. Under the cash method the emphasis is placed upon the effect on the other side of the balance sheet. The current practice of preparing an income statement in terms of sales and expenses consistent with the accrual procedure has much to commend it; considerable service is to be secured from such a statement. It is probable, however, that the accountant would render an additional service if he also prepared the accrual income statement in asset (cash, etc.) terms, as, for instance, in the illustration presented below. Such a statement would probably come close to crystallizing the businessman's thinking and would serve to translate the orthodox statement into his terminology. It would also serve to emphasize the implied, the assumed, side of accrual income and thus to round out and complete the concept of income.

From one point of view an income statement such as that presented may be conceived as a statement of cash receipts and

THE CASH STATEMENT OF ACCRUAL INCOME

| | | | |
|--|-------|--------|--------|
| Gross Income: | | | |
| Cash and cash collectibles acquired as the result of the period's income-earning activities..... | | \$XXXX | |
| Cost Deductions: | | | |
| Cash flowing out and debt incurred (cash to flow out in the future) for cost items pertaining to the above income..... | \$XXX | | |
| Amounts representing sacrificed investment (depreciation, investment previously congealed in merchandise, etc.)..... | XXX | XXXX | |
| Net Income (income in the form of cash and cash collectibles)..... | | \$XXXX | |
| Distribution: | | | |
| In the payment of dividends..... | \$XXX | | |
| In the payment of fixed debt, retirement of stock, etc..... | XXX | | |
| In the acquisition of increased inventories, prepaid items, fixed assets, etc..... | XXX | \$XXXX | |
| Balance of income remaining in the form of cash and cash collectibles*..... | | XXXX | \$XXXX |

disbursements focused in terms of the responsible period's operating activities. To be profitable the period's sales should provide sufficient cash and cash equivalent to cover the amounts disbursed and to be disbursed for wage services used, fuel and supplies used during the period, merchandise sold during the period, taxes paid and to be paid, etc., the estimated amount of the capital supplied investment sacrificed in the conduct of the year's activities, and a balance.

Although the accounts are not usually set up in such a way as to segregate the cash receipts and disbursements applicable to each year's operating activities, they could be so kept. The arbitrary designation of various amounts of cash as indicated above should not be subject to serious objection, however, since cash is a fungible item and reasonable assumption should be acceptable. Fundamentally, the

* Additional amounts of cash and receivables representing investment recoveries, as well as amounts secured by borrowing and investment, may also be available to meet the demands for cash.

cash experience is the meaning underlying the orthodox income statement and it is proper so to interpret it. The businessman, in the main, is engaged in a process of cash commitment and recovery. In effect, he also serves as a middleman collecting cash from customers and distributing a considerable portion of it to those who provide labor services, materials, supplies, etc. The cash received from the customers must, if the business is to be considered successful, also leave a balance sufficient to constitute a reasonable reward for the proprietary services rendered. When the customers do not provide sufficient cash to cover the just liquidation of investment plus the cost distributions, the business is obviously unsuccessful.

Expense and revenue items, in their deeper meaning, have reference to cash effects. From the standpoint of historical accounting, gross income, in this sense, is the amount of cash (and equivalent) received and to be received as a result of the period's sales. Expenses and costs are the amounts distributed and to be distributed to secure the goods and services which were necessary to make the sales a reality, plus those amounts which are believed to represent capital recovered or sacrificed. Net income is the balance of cash and cash equivalent remaining.

Fundamentally, the accrual basis of accounting differs from the cash basis of accounting only in the fact that the latter determines income without regard for the period which put forth the effort responsible for receipts and without regard for the period which received the benefits of disbursements. The former, in effect, attempts to earmark cash receipts as the property of the period responsible for their receipt, and to earmark cash disbursements as costs of the period which benefited therefrom. The technical process of accruing expense and revenue is merely the medium by which the process of cash

allocation is accomplished. The accrual method thus makes of income not a different thing, but rather a different amount; it is merely a technical method of computation under which it happens to be convenient to exhibit income as an equity effect.

The entries made to record income under the accrual method involve, in the main, debits to assets; those made to record expenses involve, in the main, credits to assets. When the latter is not the case a liability may be involved temporarily, but this is usually only the means of deferring the asset credit. Because of the convenience secured, the computation of accrual income proceeds in terms of the technical income credits and (expense and cost) debits, rather than in terms of the corresponding asset debits and credits. As shown above, however, accrual income can also be computed as an asset effect. The other element of the expense and revenue entries—the real basic asset element, if you will—can be assembled in the form of an income summary. If accrued income were so computed it would probably be defined as an asset effect. But the method of computing income ought not to be the determinative factor in deciding that it is either asset or equity. In reality, it would seem that income is both an asset effect and an equity effect and that it should be so defined. To use the term in reference to either effect alone is to state but half of the truth.

Light may be secured on a number of accounting problems by approaching them from the cash viewpoint of income. Depreciation, for instance, represents the thawing, liquidation, recovery, or disposition of congealed investment. Assuming that the business is successful, the basic entry is therefore a charge to cash (or equivalent) and a credit to the asset being liquidated. The fundamental problem of depreciation rests with the determination

of the portion of the asset which is disposed of. It is not proper to recognize appreciation within the historical procedure, since appreciation does not represent a congealing of investment. Nor is it proper to base the computation of depreciation upon appreciated value, since from the standpoint of historical accounting there can be no recovery of that which has not been experientially congealed.

Similarly, the replacement treatment of depreciation is hardly defensible, since it is based upon the congealing of cash rather than upon the recovery of congealed cash. The bad-debt estimate represents cash which the business does not expect to receive for a portion of the total sales made during the period. It does not represent a cash equivalent or true receivable, and thus ought not to be included in the figure representing gross cash and cash collectible income. The true cost of bad debts to the business is the cash spent or to be spent for merchandise, etc., lost through uncollectible sales.

Cost or market whichever is lower is not a proper method of inventory evaluation, since it results in exhibiting an item as a cost which does not represent cash spent or to be spent in obtaining the cash received and to be received from the period's sales. The differential between cost and the lower market value is cash which is still congealed in merchandise, the liquidation of which results from the sale of that same merchandise and not from the sale of some other merchandise. This would appear to be the experiential cash flow, and the historical record should be consistent with it. Similarly, the first-in, last-out method of inventory evaluation is inconsistent with the cash-flow experience. The liquidation resulting from the sale of merchandise should be the liquidation of the cash commitment frozen into that merchandise originally. Certainly no other merchandise commitment can set the

liquidation pattern. While it may be desirable to have other types of accounting, basically the orthodox historical procedure would appear to be an experiential cash-flow procedure. Proper practices are to be determined accordingly.

THE HISTORICAL INFLUENCE UPON INCOME

It is evident that the experience of cash investment and recovery, with either excess or deficiency resulting, is an individualized experience. This historical aspect of the income-determining forces is often of extreme importance. The purchase price of a given security on the stock market on any given date may be of little importance in determining the absolute dividend to be secured from the stock in the future; but it is of great importance in determining the rate of return and the capital gain or loss realized at the time the stock is sold. From the standpoint of the latter results, it is important that the stock be purchased at a *right* time. Similarly, it is important to future success that a business be born at a *right* time.

This is easily illustrated. Assume, for example, that both A and B established business organizations in January of 1929, when the business outlook was not exceedingly grave, when even the so-called best experts in the country were predicting nothing worse than a few minor recessions ahead. Assume further that A and B constructed identical buildings at a cost of \$400,000 each, that the buildings were estimated to have service lives of twenty-five years, but that B, for reasons which were personal, was forced to sell his business in January of 1933, and that the realization price received for the building was \$150,000. Assume, also, that A and X, the new owner of the B business, operated their organizations with equal efficiency thereafter and that their operating costs were identical except for those related to

their respective investments (a highly unlikely situation but nevertheless an assumption permissible for purposes of isolating the factor to be emphasized). The income statements of the two businesses for a given year may be assumed to have the following appearance:

| | Business A | Business X |
|--|------------|------------|
| Sales..... | \$100,000 | \$100,000 |
| Cost of Goods Sold..... | 50,000 | 50,000 |
| Gross Profit..... | \$ 50,000 | \$ 50,000 |
| Operating Expense (other than Depreciation)..... | 30,000 | 30,000 |
| Profit prior to the deduction of Depreciation..... | \$ 20,000 | \$ 20,000 |
| Depreciation*..... | 16,000 | 7,143 |
| Net Profit..... | \$ 4,000 | \$ 12,857 |

Because of the opportunistic dates of the respective investments the A business had a \$400,000 congelment in its building which has to be reconverted into liquid form over the life period of the building before there can be profit. (Consistent with the assumption that each business is a going concern, this amount may be allocated equitably to the respective fiscal periods.) Business X's original building congelment was considerably smaller than A's. The portion of the cash and cash equivalent received as a result of each period's sales which X needs to consider as building liquidation is therefore considerably smaller than that which A needs to treat as building liquidation. A larger portion of X's receipts thus represents profits. It is clear that it is the opportunistic history, or time of birth, of the respective organizations which is responsible for this situation rather than their operating efficiencies.

The abilities of businesses A and X to earn operating profits is probably rated to better advantage by comparing their respective profit figures prior to the deduc-

* Depreciation for the A business is computed by dividing \$400,000 by 25 years. Depreciation for the X business is computed by dividing the new cost, \$150,000, by 21 years, the remaining life of the building.

tion of depreciation. Although the latter is conceded to be an operating expense, it nevertheless carries with it such a historical emphasis that the significance of the profit figure subsequent to its deduction is obscure. It is also probable that the final profit figure of the A business reflects a capital loss and that the profit figure of the X business may even reflect a capital gain. At least it is reasonable to argue that a portion of the \$8,857 differential between the profit figures of A and X is an expression of capital gain for X or capital loss for A. (On the theory that the capital gain for X and the capital loss for A should be measured by the differential between depreciation figures based upon cost and depreciation figures based upon current market values, it is probable that the correct capital gain and loss are not to be imputed from either statement.) Depreciation, in effect, represents the implicit economic sale of a portion of the building. If the amount can be established and if the difference between the tax rate on operating profits and the tax rate on capital gains (and losses) is sufficient, perhaps it may be reasonable to endeavor to establish the principle of capital gain and loss and to try to isolate the amount. There would seem to be little justification for taxing the capital gains and losses of explicit sales differently from those of implicit sales except for the difficulty of determining the amount of the latter.

It is evident from the above illustration that not all of the amount which current accounting practice designates as operating profits is truly such. Because of the nature of the economic organization the individual engaged in business undertakes a variety of speculations, in addition to speculation regarding his ability to supply desired economic goods or services at a cost sufficiently below the market price to yield a satisfactory profit. Prominent among these is the possible capital gain

or loss on his asset investment. The accountant usually proceeds as though these other speculations do not exist; but it would be helpful if his procedure could be so adjusted as to reveal their effect. The contribution to management must be considerable.

It should be noted, further, that for purposes of capitalization in the determination of going-concern value, allowance must be made for implicit opportunistic historical capital gains and losses. These items are of little service in respect to this end.

In the second place, because of the fact that the investment, liquidation, and profit procedure is individualized for the business venture it is evident that the profit figures of most corporations are not to be interpreted automatically as being prorata income of the respective stockholders. Original stockholders make their investments directly in the corporation. Subsequent stockholders, in acquiring their stock from previous stockholders, do not invest their funds in the corporation. Since the records of the corporation are kept on the basis of its own separate investment and recovery process, the corporation's profit is an expression only of the corporate entity's success or failure. Because of this fact it is probable that considerable tax injustice exists. In the usual case the stockholder is probably either over- or undertaxed. Dividends received by "subsequent" stockholders will frequently contain an element of capital return which will be taxed to them as income.

In other cases, from the standpoint of the subsequent stockholders, the corporation's depreciation charge will be overstated and its income understated. Since the corporation's income is not usually determined on the stockholders' investment basis it follows that the problem of taxing corporate income will not be solved entirely by taxing it on the basis

of the allocable prorata shares of the stockholders. Were it not for the factors of interest and alternative money use, compensation would probably be secured at the time the stock is sold or the corporation liquidated, provided tax rates remained constant. The latter, however, is not the case, nor is it likely that the taxing of capital gains differently because of variations in the period held contributes much to the equity of the situation.

ACCOUNTING INCOME IS NOMINAL MONEY INCOME

Expressed in terms of cash it is evident that income will possess the buying power significance which cash possesses at the day of receipt. The possibility of a fluctuation in this buying power is also a speculation implicitly undertaken by all individuals engaged in business. Because of the difficulty of measuring changes in buying power with accuracy and because of the lack of agreement as to how changes in buying power should be measured, the accountant usually ignores them. In fact, it is common procedure for the accountant to assume that changes in the buying power of money are insignificant and that therefore they require no consideration in income determination, although the history of price-level movements would seem to refute this assumption. Nevertheless, it is true that accounting income is mere money income arrived at rather largely through a process of mathematical addition and subtraction. The result is that capital, in terms of buying power, is usually either over- or undermaintained. Accounting income, as buying power, therefore either includes part of the investment recovery, in which case it is overstated, or it is deficient because part of the amount which is designated as the liquidation of congealed investment is in reality income. Regardless of whether anything

practical can or will be done toward solving this problem, this limitation of accounting income does exist and should be recognized and understood.

ACCOUNTING ASSUMPTIONS

In computing income the accountant makes use of certain practices which are believed to be convenient but which are not strictly consistent with the thesis that net income is typified by the cash and cash equivalent remaining from the given period's sales after having deducted (1) the amount paid out and to be paid out for goods and services consumed in making the sales, and (2) the investment recovery. The cash paid out for freight during any given period, for instance, is usually treated as a subtraction from the period's receipts even though its recovery should properly be deferred until a subsequent period. Similarly, the figure for cash to be received is not usually adjusted to allow for amounts which will not be collected because of discounts and allowances to be granted. Nor is the figure for cash to be paid out always adjusted for amounts which it will not be necessary to disburse because of discounts and allowances to be received. It is commonly assumed that the law of averages will provide sufficient compensation to render these procedures accurate within an area of practical reasonableness. The error resulting from subtracting the total paid for freight from a given period's gross sales receipts, when the merchandise for which the freight cost was incurred has not been sold, is presumed to find its compensation in the absence of a subtraction for freight properly allocable to the current period which was similarly subtracted in the prior period. The absence of sales and purchase discount adjustments are presumed to be taken care of through similar compensations. It is probable, however, that these

compensations are not perfect and that the net income of any period will be somewhat affected by this failure.

The estimate of the uncollectible receivables is computed variously by different accountants and is seldom exact. Similarly, the liquidation of fixed-asset congealment is estimated by a variety of methods. The cash distributed and to be distributed, plus the investment recovery on account of merchandise sold, is also variously computed. Because of such variations as these, the net income figure of any individual concern is in part a function of the accounting procedures used and in part is relative thereto. It is not an absolute. This always constitutes a limitation in comparing the income figures of different organizations.

Variation is also found in the treatment accorded many of the so-called non-operating items. Deficiencies of depreciation charges for past periods, for example, are sometimes charged against the income of the period in which the discovery is made. At other times they are charged against surplus. Losses resulting from accident, fire, theft, etc., are subjected to similar variable treatment. From the standpoint of the earlier discussion, the question at issue is the extent to which the gross cash receipts (and equivalent) should be interpreted as constituting the recovery or liquidation of fixed-asset congealment which was presumably disposed of in a previous period or lost during the current period.

It is evident that over the life period of a business the cash receipts from sales must exceed the recovery of cash congealment if the business is to be termed a profitable venture; still the relationship between service extracted and the liquidation of cash congealment is an important problem. Without attempting to resolve this issue it follows because of these contingencies

that the portion of cash and cash equivalent received from the sales of any given period which is properly designated as profit is a provisional item subject to revelations or confirmations that must appear in the future.

It is not usually difficult to determine portion of the cash receipts which was distributed, or will have to be distributed, for the purpose of obtaining the services used in acquiring the cash flowing from the sales of a given period. The real problem rests with the determination of the amount which should represent investment recovery, particularly the liquidation of cash previously frozen into fixed assets. The problem presented by the destruction of invested capital by accident, fire loss, etc., also complicates the situation. The question is also a pertinent one as to whether any portion of the cash received from the sales of a given period should be considered capital recovery because of losses which will probably be suffered in the future, or, for that matter, which were suffered in the past. In general, the best that the accountant can do is to make the best possible estimate and to rely upon the law of averages for compensations. It is evident, however, that the accountant's lack of capability in the realm of prophecy will probably leave the profit calculation (cash or cash equivalent figure that is so designated for any given year) an unfinished symphony.

In conclusion, accounting income rests basically with assets; and it can justly be stated in terms of cash under both the accrual and the cash methods. The former designates cash receipts as income of the year of sale; the latter merely designates them as income of the year of collection. Expenses and the cost of income are in reality partly the distribution of a portion of the sales receipts to cover the costs incurred in making the sales, and partly

the recovery of the portion of the investment (or the loss of the investment) sacrificed in making the sales.

Under the usual accrual accounting procedure, income is measured in terms of an equity effect through the medium of an income statement drawn up in the form of sales and expenses. This is merely a consistency which is in accord with the mechanics of present-day double-entry accounting. In the larger perspective, accrual accounting from the over-all and longer-run point of view is a cash-flow procedure and income is a cash or cash equivalent resultant. Income is thus both an asset and an equity effect. The former is probably (under the assumptions of private property) the more fundamental or causative effect. Although accrual income is usually expressed only in terms of the equity effect, the implied asset correspondents should not be overlooked. Accounting questions in dispute respecting the accrual income of historical accounting are probably better analyzed in terms of the

cash-flow experience than in terms of abstractions separated therefrom.

It is important to keep in mind, also, the facts that historical accident, changing price levels, and accounting assumptions have considerable influence upon the income computed by the accountant. Accrual income, in general, is the expression of an individual, crystallized cash-flow (and expected cash-flow) experience, somewhat arbitrarily allocated to limited periods of time. It should be interpreted accordingly. Unless reconciliations are made, the income figures of different organizations are not likely to be strictly comparable. Because of the historical emphasis it would appear that for certain purposes the profit figure prior to the deduction of depreciation offers a better basis for comparison of enterprises than the figure which remains after depreciation has been deducted. The final profit figure is likely to reflect an element of capital gain or loss which in the more gross state is apt to be neutralized.

THE PUBLIC ACCOUNTANT OF TODAY AND TOMORROW

JOHN W. QUEENAN

FOR PROPER perspective on the accountant of today, let us first look at the accountant of yesterday. The accountant of yesterday, as of today and undoubtedly of tomorrow, was the product of the needs and demands of contemporary commerce and industry. Accounting and accountants had their beginning in bookkeeping and bookkeepers. Modern bookkeeping apparently first came into general usage in the fifteenth century in response to the rapidly growing commerce and trade conducted by proprietorships and partnerships in the Italian republics.

The bookkeeping of that time, although basically the same as present-day bookkeeping, was very simple, as suited the needs of business, and was based on a few simple rules of debit and credit and recording procedure. Theory and accountants did not exist; it was necessary only that bookkeepers of the time be accurate, methodical, and attentive to application of the rules.

In the nineteenth century a class of specialists in accounts, or public accountants, made its appearance in England as a result of legislation instituting the British statu-

tory audit as a means of protecting the investing public. It was the original intention, and, in fact, the practice for many years, for the statutory audit to be made by certain of the shareholders. However, it soon became apparent that, with business becoming more complex, an effective audit required men with more specialized knowledge of accounts than was possessed by shareholders generally. Gradually the shareholders engaged others having a knowledge of accounts to conduct the audit. Thus, over a period of years a group of men expert in accounting was established from the ranks of bookkeepers, particularly those who had acquired experience and developed powers of accounting reasoning by assisting in the more involved accounting for bankruptcies.

In the early years of professional accounting—probably because the expert accountants of the time were former bookkeepers, as well as because business had not yet attained the tremendous volume of transactions characteristic of present-day business—auditing procedure for verification of transactions was based on a re-checking of bookkeeping procedures, such as examining all vouchers for expenditures, checking all postings, etc. Although verification of asset and liability balances was not greatly different from present-day procedures, it was uncommon for accountants physically to verify inventory quantities. Because of the limited knowledge of accounting theory on the part of many bookkeepers, the public accountant found it necessary in conducting an audit to perform a considerable amount of bookkeeping work in the nature of furnishing the bookkeepers with numerous journal entries necessary to close the accounts properly.

As the profession of public accounting grew in the twentieth century and the demands made on it became greater, major strides were made in its development as

a useful tool of business and social progress. Professional accounting societies were organized and grew in England, the United States, and other countries of the world. Colleges and universities instituted and augmented courses for the study of accounting and related subjects. Professional accountants and educators devoted considerable time to the study and development of accounting theory, audit procedures, and report practice. A multitude of volumes on accounting theory were written. Audit procedures were studied and revised to meet the requirements and exigencies of widespread corporate business. Detail checking of transactions gave way to tests based on the accountant's judgment and consideration of the most effective methods of detecting fraud as indicated by experience.

During the first quarter of the twentieth century the public accountant found it necessary to differentiate between material and immaterial matters. Materiality became of utmost importance in his exercise of judgment. The voluminous transactions which were involved in the conduct of business by large corporations operating in widespread locations made it impracticable, if not impossible, to verify all items or transactions and, consequently, placed a premium on the development of judgment for the determination of matters of materiality.

Although the profession of accounting, even in its early days, included among its members many men with broad liberal education, many of its members for the first quarter of the twentieth century were self-taught as to the technical aspects of their profession. Many of them acquired their training and experience as bookkeepers, then progressed to the field of public accounting, and in many instances made notable contributions to the advancement of the profession. However, as in many other professions and in

business generally, the era of the self-taught accountant passed with the development of colleges of commerce, and as business and social development became more complex. As the necessity for intelligent tests of transactions became more pronounced and accounting problems became more involved, the need became evident for accountants to be well-trained in accounting theory and in the application of audit procedures to the point of greatest possibility of judgment in detecting fraud or misrepresentation.

With the growth of large corporations and the increasing intricacies of corporate accounting, the larger corporations found that the accounting problems incident to their operations required employees, such as comptrollers, auditors, and treasurers, with a higher type of training and education than the bookkeeper. As a result, it became unnecessary for the public accountant to make numerous audit adjustments. Such adjustments as were still necessary were usually the result of differences of opinion as to the application of basic accounting principles. This development emphasized again the need for a thorough education in accounting and financial matters of men who entered the field of public accounting, in order that they might deal with clients' officials on an equal educational plane.

During the past twenty-five to thirty years there has been a steadily increasing trend toward the selection of men having a formal college education with a major in accounting. Colleges and universities throughout the country have developed curricula for the study of accounting as a major subject along with other general subjects on the college level. Over the years the curricula have varied widely with the many colleges—from curricula consisting of a preponderance of technical subjects to those consisting mainly of the cultural subjects with a few accounting

and related technical subjects included. From the standpoint of training men for public accounting, a middle course is most desirable. At the present time the preferred course is one which is well balanced, with a substantial proportion of courses in accounting and auditing, as well as courses in English, literature, economics, mathematics, law, history, and the sciences. Judging from experience with recent graduates, it might be well to include a course in penmanship.

It appears almost certain that with the end of the war and the increasing supply of college students who have majored in accounting, the larger public accounting firms will limit their employment of new men to those possessing a college education. The trend has already started in legislation to limit candidates for the CPA certificate to college graduates. It probably will be some time before such limitation becomes general, since legislation usually lags considerably behind actual developments.

In this second quarter of the twentieth century the public accountant has come into his own; he has definitely established himself as an important and essential factor in the economic and social structure of the nation and the world. During this period his position has changed. He is no longer regarded as a necessary evil required for the purpose of certifying the annual report to stockholders, and disliked by bookkeepers as one apparently interested only in disclosing petty bookkeeping errors. He has come to be recognized by business management as a man of education, character, and experience who is invaluable to them in matters relating to accounting, tax, and general business advice, as well as in the presentation of financial information to the public. There is a general understanding in business management today that the public accountant is essential to the successful

conduct of their business because he offers competent advice and opinions from an independent viewpoint. His position also has been advanced through a more general recognition of the fact that the public accountant is not an appraiser or guarantor of financial statements.

The improvement in the public accountant's position has not been by chance, but has been growing for many years and is the result of a gradual realization on the part of management of the benefits to be derived from the public accountant's knowledge and experience. Just as industrial comptrollers and accountants have gradually assumed a more important position in management, public accountants have been called upon more and more over the past several years for advice and consultation with the higher officials of business. In recent years the practice has become more general in the United States for public accountants to be engaged by the directors of corporations, thus enhancing the position of independence of the public accountant. It is common practice today for public accountants to discuss financial and accounting policies and their recommendations with the directors or a committee of directors.

In recent years there has been considerable publicity as to the relationship between the public accountant and the Securities and Exchange Commission. The public may have the mistaken idea that regulatory bodies, such as the Securities and Exchange Commission, have developed and imposed many improvements in accounting principles and audit procedures. As a matter of fact, the profession does not accept without reservation some of the ideas recently promulgated by the Securities and Exchange Commission and the Federal Power Commission. All the major items of audit procedures which have been publicized in recent years, such as physical testing of inventory quantities,

testing of receivables by correspondence with the debtors, and the correlation of audit procedures with internal control, were in general use by many public accountants prior to the second quarter of this century. Many of the accounting principles which have been set forth in the series of bulletins published by the American Institute of Accountants, and the releases of the Securities and Exchange Commission, are merely restatements of principles previously known and followed by public accountants.

There can be no doubt that the Securities and Exchange Commission has made a valuable contribution to the public accounting profession by insisting on the application of certain standards by all public accountants whose clients are subject to its jurisdiction, and by giving the profession the backing necessary to vest it with the authority of independent experts; but the SEC has not done the thinking for the profession.

The public accountant of today is a man of education and independent thought tempered by accumulated experience in the exigencies of the financial affairs of the past quarter century. He is not only expert in his knowledge of accounting technique, but also is, of necessity, familiar with the operation of business generally, since he cannot interpret accounting data without a working understanding of the various phases of business. He is a man of considerable judgment and imagination, capable of discriminating between significant and insignificant matters. The public accountant of today must be able to express the results of his work clearly in speech and writing. Since his most important attribute is his independence, he is a man of high moral character with a willingness to accept the great responsibility placed upon him. Because in accepting that responsibility he is required at times to

take definite exception to certain matters he must, of necessity, be qualified by tact, education, and experience to meet highly trained business executives on an equal basis. He is an indispensable factor in a society in which business, investors, labor, and government are interdependent.

I realize the difficulty of attempting to look objectively at the present, especially when the observer is also one of the objects of observation. And I disclaim any clairvoyant powers for looking into the future. But I take comfort in the thought that the future is taking form today.

It is not possible to discuss tomorrow without considering the events which will affect tomorrow but already are under way today. Today is already tomorrow. The public accountant came into being because of the need for protection of investors and assurance to the public as to the reliability of financial statements; his growth was fostered by legislation in the public interest, and he, undoubtedly, will continue to maintain an important position in the relationship of business with investors, government, and the general public. However, while establishing and maintaining that position, the public accountant's work has gradually taken on a broader aspect and will continue to do so. From the early days of the profession his work has included the designing and installing of accounting systems. From the inception of the income tax law his work has included the preparation of income tax returns and advice and assistance in income tax matters, including the presentation of facts and arguments relating to tax questions under dispute. It was natural that his work should include the field of income taxes, in which not only an understanding of the tax law and regulations is required, but also—perhaps more important—in which an understanding of the theory back of the law and of its relationship to accounting practice is essential. For some years there has been a school of thought

in the legal profession which regards the field of income taxes, particularly that portion other than the preparation of returns, as exclusively legal. Public accountants, although recognizing certain legal spheres, cannot agree that income tax practice is exclusively legal. It probably is safe to say that the ultimate determination will be made in the light of the best service in the public interest.

The widening scope of the public accountant's work, which has been progressing consistently, was augmented by World War II. Accompanying the complex problems arising from the war, many of which have had a direct bearing on accounting, there has been an increasing tendency for business executives to seek the advice of the public accountant before the execution of a transaction. This advice has related not only to the accounting treatment to be accorded a particular transaction, but also to the public accountant's judgment of the financial effect of a particular transaction on other phases of the business. Thus, the public accountant has become concerned with the financial aspects of many proposed transactions as well as the post-audit of accounts. In the exercise of his expanded functions he has become no less independent. As a matter of fact, his advice has been sought because of his independent thought as well as his wide accounting and business experience. There appears to be little doubt that this phase of his work will continue and develop in the future, since it offers business executives a valuable independent opinion as to the wisdom and propriety of proposed financial or business plans. In this role, the public accountant is again performing an important social function by preventing or retarding many uneconomic, undesirable, or improper practices.

The profession of public accounting is unquestionably the product of our system of private enterprise, and the development of the profession of tomorrow will depend

upon the survival and growth of that system. The widening scope of the public accountant's work has reached into the field of governmental accounting and auditing only to a very limited extent. Most auditing of government accounts has been performed by employees of various governmental agencies. It seems not improbable that in the future the public interest will demand the same degree of independent review and audit of governmental financial affairs as is required of private enterprise. Should the future bring a public awakening to the importance of accountability by public officials, it would be natural for the services of the public accountant to be used extensively in governmental auditing.

It is not beyond the realm of possibility that the public accountant of tomorrow will become an important factor in the matter of labor disputes and wage negotiations. If it should become common practice, even though it be undesirable and uneconomic, to consider ability to pay or the financial condition or income of an employer, the public accountant's services will be in demand because of his experience and independence. Obviously, the independent public accountant has an important role in any situation in which reliable accounting data are essential. In any event, publication by labor unions of financial statements audited by independent accountants is a probable development.

The public accountant of tomorrow will continue the study and research now in process to define more clearly the various accounting principles. The work done in that respect has been devoted almost entirely to the study of principles applicable to specific transactions. In my opinion, the attention of public accountants of tomorrow will be devoted primarily to the broader aspects of accounting principles upon which treatment of specific transactions is dependent, such as the basic purpose of the income statement. Today

there is lack of agreement among accountants as to whether the income statement should set forth the operations of business as they occur or whether it should be so adjusted as to indicate the possible trend of future operations. There has been a considerable agitation for the latter concept, but I venture to say that the public accountant of tomorrow will favor a direct reporting in the income statement of transactions as they occur, and that cost will assume more importance, with adjustments of inventories to the lower of cost or market shown separately in the income statement.

In recent years that portion of the public concerned with affairs of business has become aware of the public accountant. However, there is still very little real understanding of the function and work of the public accountant, even among businessmen other than those concerned principally with financial affairs. This lack of understanding is due principally to the extreme specialization in present-day society and the tendency of accountants to live in their own world, with associations in their own professional societies, reading their own magazines, and devoting their thoughts to their own professional problems, much the same as members of the other technical professions.

Not until recent years has the public accountant shown much concern as to a possible understanding of his work by others. The early work of the public accountant in the United States was generally the result of requests for bank credit, and he was concerned only with making his report understandable to bank credit men. As the scope of his work broadened and his reports were distributed to thousands of stockholders, the public accountant became more aware of the importance of a general understanding of his report by stockholders and others. The accountant's certificate was expanded to give as definite a statement of the scope of his

work and of his opinion as seemed practicable and consistent with the conciseness required for general usage of the certificate. Attention has been given to the problem of defining, clarifying, and simplifying accounting terminology. More attention and study undoubtedly will be given to this subject in the future, and every effort should be made toward the end of making accounting as understandable as possible, of translating the translatable things.

However, the public accountant must not be misled in his search for simplicity lest he destroy the usefulness of his medium. Understanding of the accountant's work cannot be accomplished entirely by simplification, since he is dealing with a technical subject wherein the terminology in certain areas cannot be reduced to the simplicity necessary for understanding by the uninformed. Some education in accounting will be needed by those who desire to understand. Certain colleges of law have recognized that fact and included accounting courses in the curricula for legal students. Now that people of all careers are concerned with accounting in one form or another, it seems logical that some accounting education should be included in all college curricula.

The public accountant of tomorrow must not be a man apart. He must not only perform his professional function in society, but also he must perform his duties as a citizen of that society. It is time that men of higher learning assume some degree of leadership in the affairs of government in our country. It is not sufficient to complain of the faults of politicians; men of intelligence must lead the way to better government. During World War II many public accountants served our country well in government service. It is difficult to imagine any class of men better qualified to analyze the affairs of

government, which has become a gigantic business, than the public accountant whose training, experience, and analytical mind have been whetted by the everyday problems, basically similar, in our industrial affairs.

The characteristics of the public accountant of tomorrow will be similar to those of today with respect to independence, moral character, judgment, imagination, tact, and willingness to accept responsibility. Those characteristics resulting from education—knowledge of accounting principles, business operations and subjects related thereto, and the ability to express one's thoughts—will become more acute in keeping with the constantly increasing standards of society. Today a college education with a major in accounting has become the standard of education for those entering the profession. Tomorrow it is probable that the public accountant will obtain his professional education as a graduate student after having completed a general undergraduate college education in literature, history, philosophy, science, economics, and other similar subjects which will enable him to perform more intelligently his duties as a citizen. The public accountant of today is tending toward higher general educational standards, and the public accountant of tomorrow is going to reach them. His knowledge of technical subjects will be no less than today, but his knowledge of social subjects will be much greater.

The public accountant of today is vitally interested in education, since educated intelligence is essential in his profession. He recognizes and appreciates the splendid work of the collegiate schools of business in training young men who will become the public accountants of tomorrow, men who will maintain and advance the standards of service of the profession of yesterday and today.

EDUCATION FOR PUBLIC ACCOUNTING ON THE COLLEGIATE LEVEL

H. T. SCOVILL

A TYPICAL recipe in a well-known old cookbook begins with these words, "Select twelve large ripe apples free from bruises and worm holes." In general terms elsewhere in the cookbook this idea is expressed, "A first-class canned product can be obtained only if a first-class raw product is used."

There is little opportunity ordinarily for comparing an accountant to an apple dumpling or to a can of tomatoes, but it can be said without hesitation that in either case the quality of the raw material can have a great effect on the finished product. In the case of the accountant, however, there are some qualities which are very difficult to detect or evaluate by casual observation, and which are nearly impossible to create if they are not present in the undeveloped material. I refer to the fact that a successful public accountant must have a professional attitude toward his work, must possess high moral standards, and must recognize that a real professional man should not be in the profession to make a fortune except in so far as his professional performance and good luck may enable him to obtain large monetary rewards. There are, of course, other important qualities which lend themselves readily to the molding of first-class public accountants. Some of these are: imagination, initiative, and perseverance; pleasing personality; self-assurance and willingness to accept responsibility; tact in dealing with others; and, finally, qualities of leadership.¹

In most instances these qualities can be

developed or enlarged as an individual matures, but they should be at least present and recognizable in a person when he begins to prepare formally for the profession of accountancy.

My fear is not so much that some poorly qualified youngsters will attempt to prepare for the profession as that too many will not attempt to prepare even though they rank high in intellect and in the natural qualities just mentioned. Other professions have been identified for a number of years with scholastic attainments in mathematics and other sciences or in classics and literature. But I suspect that the successful accountant, in the thought of most people, has not been associated with a scientific or mathematical mind.

Similarly, the public accountant has not been mentioned generally as one who likes to deal with people. This essential quality is overlooked because the accountant, until the last decade or so, has been visualized by the layman in terms of the chief bookkeeper on a high stool, or one of his assistants. The fact has been too widely overlooked that the public accountant, almost from his first day in the professional atmosphere, must work in the offices of clients and converse professionally with many other people. He must exercise resourcefulness, tact, judgment, and imagination sometimes under the watchful eye of one or more members of the client's staff. The watchful eye may be that of an employee who has misappropriated funds and manipulated the accounts in a way presumed to defy detection. Such situations require extraordinary tact and judgment.

¹ *Public Accounting as a Career*, published by the American Institute of Accountants.

So, the first step in education for public accounting on the collegiate level consists in obtaining for exposure to such education as many as possible of the best qualified prospective accountants. There is still some difference of opinion as to the ideal combination of qualities one should possess and even more difference regarding the methods of determining accurately who does and who does not possess them. The studies now being made by the American Institute of Accountants through its Committee on Selection of Personnel should aid materially in obtaining a reasonably satisfactory answer to both questions.

In this and subsequent remarks, I am considering the topic primarily from the point of view of the university which is attempting to formulate a sound educational program. I am not considering it from the point of view of the prospective student who might wish to know the answers to a great many questions that might arise from month to month in the early days of his academic or professional career. It is difficult to differentiate between the two points of view in all respects, because both naturally have many elements in common.

Either an institution or an individual in outlining plans for offering or receiving an education for public accounting should think of the objectives of the educational processes. The objectives can be assembled after one has given much thought to the types of duties and contacts of the accountant in his professional world from day to day. Not having observed anywhere in print a set of objectives of this type, I shall assume that each educator who has assisted in the past in formulating a curriculum for public accounting has kept his objectives in his desk for ready reference, and has not brought them out in public. Will he please compare them with the following statement?

A curriculum in accounting should have these two objectives:

1. To train the prospective accountant in the nontechnical subjects in arts and sciences so that he may develop a background of knowledge and a confidence and an incentive that will lead him into further reading in any of the sciences, humanities, or social sciences after he leaves college.

2. To offer technical training in accounting and allied fields which will enable the graduate to render a most effective type of service in his chosen field.

As to the nontechnical subjects, it is evident to most of us that complete coverage is impossible. The best we can expect to do is to offer training in fundamental sciences, social sciences, humanities, and English, both oral and written. In fact, we could easily justify including English and economics (of the social sciences) among the technical subjects, because no public accountant can succeed as such without possessing a good fundamental training in those subjects. The other so-called nontechnical subjects may be helpful at almost any time in an accountant's life, either in his own office, in the office of a client, at business conferences, or at dinners or other social engagements.

However, aside from the habits one forms in the use of good grammar, or in the use of sound economic principles (whatever that means), that which one learns in the other nontechnical subjects will be of little value in later life except to the extent that one occasionally reads or thinks in the several fields covered in college. Such reading can be in newspapers, magazines, or books. Even if one takes several courses in economics, for example, one will not be able to enter into an intelligent conversation on a topic involving economics ten years later unless he has read or thought carefully on the subject fairly regularly or recently. In the case of economics, of course, the accountant because of the nature of his profession is

thinking regularly in many avenues of the subject, hence he should always feel ready to discuss with intelligence many of the topics arising from day to day.

In literature, sciences, and some of the social sciences, however, the accountant will find it necessary to renew his acquaintance with some phases thereof from time to time in order to feel at home in a discussion that might arise in some of his numerous contacts. So, I believe that all of these subjects are valuable in that they furnish one with a basis and an incentive for further reading, either planned or casual. We cannot tell, however, when a familiarity with some of the sciences and, to a lesser extent, with some of the arts might be valuable in an accounting or auditing engagement. The accountant in that respect is somewhat like the lawyer in that any course offered in the university might at some time or other prove to be of value to him.

As to the technical subjects, including all which can be classed as related to economics or business, the following detailed objectives seem to be in order:

I. To teach the student the principles and practices of business so that in his profession he may (1) appreciate the validity of transactions under the existing conditions; (2) evaluate the reasonableness of the monetary amounts involved; and (3) recognize the financial implications in the particular setting. All this to the end (a) that he may give advice concerning the desirability of effecting any proposed transaction or series of transactions when they are in formative stages; (b) that he may obtain the best possible evidence, commensurate with the surrounding circumstances, whether all transactions were or were not completed in accordance with authorizations and were or were not reflected properly in the books of account; (c) that he may ascertain that no transactions or adjustments were completed which

have not been properly reflected in the accounts; and (d) that he may be reasonably sure that the aggregate financial effects of all transactions of a given period and the accumulation of all transactions down to date are adequately reflected, respectively, in the operating statement and the balance sheet prepared for the period and as of the date in question.

II. To teach the student about the internal affairs and the organization of business concerns so that in his professional career he may be able (a) to formulate or modify business procedures and business organizations; (b) to frame policies concerning, and verify results of, distribution of costs, expenses, and income over departments, products, plants or territories; and (c) to prepare and interpret budgets and other financial and analytical statements that may serve as guides to management.

It should be noted that in dealing with the technical phase of objectives in training for public accounting two types of observations have been made, one general, and the other more specific. The general one is "to offer technical training in accounting and allied fields which will enable the graduate to render a most effective type of service in his chosen field." The more specific type of observation describes in broad general terms the things an accountant does in rendering such service. Obviously, a university cannot furnish training so extensive and at the same time so intensive that the graduate will be able to handle all situations that arise in his professional career. A university, however, can offer courses which will familiarize the student with the principles not only of accounting in its various phases but also of business organizations, customs, procedures, and laws with which accounting is so intimately associated.

Every business transaction that involves money or credit, whether it be the issuance

of a formal bond under seal or an informal cash sale over the counter, can and should be the basis of an entry in the books of account either by itself or as part of a total of other similar transactions effected during a day or a month. Transactions in a business are of a great many different types. They may involve purely financing matters such as capital stock or bond issues, or bond redemptions under one of several different types of contracts, or the formation, reorganization, or dissolution of a corporation, or a partnership under any one of many more or less complicated situations. They may involve merchandising transactions, buying and selling under a variety of conditions with the correlative transactions of rebates, allowances, returned goods, claims for damaged or sub-standard goods. They may take the form of receipt, issuance, or acceptance of promissory notes, trade acceptances, or similar items in settlement of open book account balances or in borrowing or lending money. Probably they are in the nature of cash received or disbursed on open account from customers or to creditors with related cash discount considerations or bad-debt write-off. Perhaps they are in the category of those for which cash is disbursed for numerous types of commodities and services other than those representing the stock-in-trade of the concern in question. Because such commodities and services cover a wide variety of items in the average business, the public accountant in rendering the most effective service must therefore know the principles underlying the several types of insurance coverage, co-insurance plans, partnership insurance, banking practice, wage-incentive plans, social security deductions, pension plans, transportation rates, charges, and methods of allocation to buyer or seller, local state and Federal taxes, leases for rental of property, ad-

vertising programs, and other items needed in the business.

It is also necessary for the accountant to know the principles and practices of marketing, including merchandise control and retail pricing methods. Theories affecting inventory valuation, such as last-in, first-out, or first-in, last-out methods of pricing commodities sold or consumed, always concern the accountant and he is expected to be familiar both with the theories and with the practices thereof.

Foreign exchange concerns the accountant in all cases in which goods are either bought or sold in a foreign market. He should, therefore, understand the effect of exchange fluctuations and of foreign coinage values on the accounts and financial statements of his clients.

Without a knowledge of the fundamentals of good business organization the accountant would not be able to design or install a system of accounts that would be adequate to the needs of the business either in providing for most economical and productive means of collecting and tabulating the accounting data or in providing sufficient internal check over the transactions to assist in conserving assets and facilitating auditing procedures.

Although an accountant at the beginning of his career cannot be expected to know much about peculiarities in transactions and accounting procedures of many different kinds of business, it would be most helpful for him to know some of the fundamentals in a few groups of businesses either private or public. Most theories and analyses presented in the average course in principles, fundamentals, or theory of accounting are related to merchandising or manufacturing. Several other groups of enterprises, private and public, constitute a substantial proportion of the accountants' clients of the country. The young accountant should, therefore,

be given the opportunity to learn about the operations, accounts, and statements of some enterprises in each of the following groups:

1. Government—local, state, national.
2. Institutional—colleges, universities, hospitals.
3. Financial—banks, insurance companies, building and loan associations, finance companies, small loan companies, credit unions.
4. Public utilities—electric, gas, water, railroads, trucking, airlines.
5. Extractive industries—mining, oil (extraction and refining), fisheries, lumbering, saw milling.
6. Service—hotels, laundries, taxi-cab operators, theaters, including movie productions.
7. Miscellaneous—recreational, religious, charitable organizations.

Inasmuch as modern office devices have modified the procedures used in collecting, tabulating, and summarizing business data that enter into the general ledger and into financial statements and analyses, the accountant early in his career (probably before graduating from a university) should realize the possibilities of the several types of office equipment used in recording financial or cost accounting transactions. The punched card equipment has had such an effect on the nature of original entries and collection of data that a young auditor cannot work effectively on some engagements unless he understands the methods of tabulating and summarizing accounting data on such machines.

Up to this point I have taken time to emphasize principally the objectives that a university should consider in offering to train students for public accounting. I have expressed the objective first in general terms, both as to the nontechnical and the technical phase of preparation, and then in more detailed terms as to the technical aspects. Before considering the specific subjects or types of subjects that would best meet these objectives, I should probably digress long enough to explain

why I have not mentioned preparation for the certified public accountant examination as one of the objectives.

The CPA examination in itself is not a curriculum objective. If the objectives outlined herein, however, are met within a reasonable degree of variation, students satisfying the requirements should be able to pass the CPA examination within a reasonable time after completion of the training period, if not at the time of completion. The objective of university training of a technical nature should be to give the student a thorough preparation in the fundamentals of those elements which he will need in his profession; to give him training in analyzing situations and correlating facts and events in such a way as to enable him to form sound judgments and deal with unusual situations as well as with routine events. Such training, coupled with some nontechnical education and with fine personal qualities, should make him a successful public accountant.

If he has done his work well he should be able to pass the CPA examination within a reasonable time even though statistics show that the percentage of failures is very high. If the average first-class student cannot pass the examination within a year after graduation, our academic standards are too low, our curricula do not offer a broad enough training, or the examination is at fault. The examination, for example, might be too long; it might relate to situations that are too rare and extraordinary to be considered a fair test of one's preparation. Some examinations contain too many ambiguous points in the problems—ones which take much time of the candidate to interpret as to the facts and situations that the problems are supposed to reveal.

The examinations at the present time are designed to test those with the ability of a semi-senior in the office of a public

accountant. In April, 1941, the Board of Examiners of the American Institute of Accountants sent questionnaires to state boards of examiners throughout the country. Twenty-five boards replied to the questionnaires. Question number 1 was, "What level of ability should the CPA examination be designed to test, i.e., that of a junior, semi-senior, senior, or partner?"

"All but five boards of accountancy who replied to the questionnaire were of the opinion that the examination should be designed to test candidates of senior status. Three states thought the examination should test men of at least semi-senior grade and two others felt that the examination should be set for men of junior grade."²

It seems, from an analysis of failures, from a knowledge of the examinations, and from some familiarity with the type of training offered in universities, that the training is not adequate for the examinations as given. It is obvious that present training would not be adequate if the examinations are designed to test semi-seniors or seniors. Many students, however, who are adept at working problems and who have benefited most from the type of training outlined herein should pass the examination within a year after graduation. It should be noted, however, that many candidates fail the examinations who never went to college and who rely on a minimum of technical training or experience consisting of only a small amount of general training. Such candidates swell the number of failures without casting any discredit on standard university schools of business.

The American Institute of Accountants is constantly studying its examinations for the purpose of making them more and

more reasonable for the changing situations as they arise. In a recent editorial in the *Journal of Accountancy*, the official publication of the American Institute of Accountants, we find this significant statement under the caption, "Professional Standards."³

From opposite sources, therefore, arise compelling pressures to keep the standards for admission high enough to protect the public interest, and low enough to permit the entrance of candidates who can demonstrate qualifications realistically related to the requirements of actual practice. It is most dangerous to let the standards sag to the point where the public will suffer from the ministrations of unqualified practitioners, but it is almost equally dangerous to keep the standards so high that the profession may be suspected of a desire to exclude too many newcomers.

University schools of business can justify any course of action that will assist in meeting the situation, which presents a challenge if not a dilemma. Perhaps we should be satisfied merely to have some of the more fortunate ones pass the examination. It would seem, however, that students with fine native ability and imagination should be able to pass in rather large numbers within a year after graduation if they pursue the type of procedure we have been considering.

There remains to be considered then only the naming of the university courses that should be offered to prospective public accountants in order to attain the objectives of the university in designing such a curriculum. I could present probably as many as fifty different curricula in which I would have considerable confidence as to results. Many of them would probably differ only as to the nature or extent of requirements in science, social science, or humanities. Some would differ as to suggested requirements in subjects commonly listed under economics and business. Some would probably differ in the

² *Year Book*, American Institute of Accountants, 1941, p. 85.

³ March, 1946, p. 188.

nature of the specific requirements in accountancy courses. It can be said, however, without much hesitation, that about one-fourth (and certainly not more than one-third) of the total credit hours required for the bachelor's degree should be a sufficient number to devote to accounting subjects. A bachelor's degree for an accountant, it seems to me, should not be more highly specialized than that represented by a one-fourth or one-third proportion of technical subjects. If one wishes additional technical training he should take more courses following the bachelor's degree, registering for them as an undergraduate or graduate student. In the latter case, he should probably take some additional courses in the fields of business or economics, depending on the extent of his specialization in accounting subjects in his undergraduate days. Such graduate work is most highly recommended.

A typical four-year undergraduate curriculum to meet the objectives as presented in preceding pages ought to contain about the following proportions of subjects or some reasonable deviation therefrom, giving due recognition at all times to the fact that the person who is completing the curriculum is just beginning his profes-

sional career and that his education for maximum service has only begun:

| <i>Subjects</i> | <i>Percentage</i> |
|---|-------------------|
| English, rhetoric, language, speech | 17 |
| Social science, exclusive of economics | 12 |
| Science ⁴ | 5 |
| Theory of economics and economic systems | 7 |
| Accountancy | 27 |
| Other miscellaneous courses in economics and business, consisting of a selection from statistics, private finance, public finance, money and banking, insurance, transportation, marketing, business organization, etc. | 32 |
| | <hr/> 100 |

These groups of courses are expressed in terms of the percentage relationship they bear to the total credit hours in the four-year course exclusive of military, physical education, and hygiene. This is a flexible list of subjects that can be modified without much difficulty to meet also situations in colleges or schools of business which are not operating on a four-year undergraduate basis.

⁴ Assumes the student presents for admittance into the university credit in advanced algebra, geometry, and a laboratory science.

STATISTICAL CONTROLS APPLIED TO FINANCIAL STATEMENTS

WILLIAM B. RICE

MOST top executives, except controllers, are not specifically trained in accountancy. Yet the top executive spends much of his time on the financial aspects of his business and in the interpretation of accounting records. Sometimes he finds himself studying detailed and massive accounting reports, trying to find in them the clues to his problems. The

clues should be there, because a well-designed set of books should reflect each phase of a business operation, from the purchase of the raw material to the collection of the final payment, in the common denominator of money value. But if the top executive has not been thoroughly trained in the specific skill of interpreting such figures, he may draw false conclusions

or, unable to draw any conclusion, may rely more than he should upon intuition and judgment. Any aid that he can enlist to quicken and sharpen his grasp of accounting figures should serve him well in time saved and decisions made more wisely.

Here the statistician can help. One purpose of statistics is to describe and summarize masses of figures in a few words. "Average" is such a word; "dispersion" is another; "trend," a third. When masses of figures are thus simplified, the executive can see at a glance the essential meaning of a detailed report, and can act upon it with more confidence.

A previous article in the ACCOUNTING REVIEW¹ outlined some of the writer's earlier applications of statistics to accounting data. Since then there has grown out of his thinking and experience a method of presentation that greatly enhances the value of the accounting department's work and gives the chief executive of a company a comprehensive control over his operations and his objectives.

Action Charts (as the writer calls them) adapt the proved principles of statistical quality control to the analysis of financial statements. Monthly balance-sheet and operating figures for the previous three to five years are plotted, and trends and action limits are calculated and placed on the chart. Each chart contains two panels: one for dollars and one for a ratio. Nine basic charts are used to summarize the financial statements of any company, large or small.

When the analysis of past data has been completed, top management can use the charts for setting goals or objectives in the future, and can follow month by month the progress made toward each goal. The accompanying illustration is an example of

| Chart Symbol | Dollar Chart, Monthly Data | Ratio Chart, Monthly Data |
|--------------|---|---|
| A | Net Sales | Net Sales, Cumulated for Each Year |
| B | Net Profit before Taxes | Net Profit as Percentage of Net Sales |
| C | Cost of Goods Sold | Cost of Goods Sold as Percentage of Net Sales |
| D | Administrative, General, and Selling Expenses | Expenses as Percentage of Net Sales |
| E | Working Capital | Turnover of Working Capital |
| F | Total Inventories | Turnover of Inventories |
| G | Accounts Receivable | Collection Period |
| H | Net Worth | Turnover of Net Worth |
| I | Fixed Assets | Fixed Assets as Percentage of Net Worth |

Chart F (inventories). Data for this chart are derived from the financial statements of one of the writer's clients. The upper panel shows total inventories in dollars from the balance sheet as of the end of each month. The lower panel shows inventory turnover, that is, each month's net sales multiplied by twelve to give a yearly rate, and divided by total inventories at the end of the month.

This chart was first drawn in January, 1944, and covered the years 1940 through 1943. The first trend and action limits² were calculated and placed on the chart at that time. Here is illustrated one of the ways in which charts of this kind can serve management. As a source of information covering the past behavior of a business, they can reveal trends in sales, costs, profits, and net worth, as well as inventories, that enable the businessman to judge the health of his organization and to see the weak and strong spots in his past management.

This and other purposes of action charts are discussed briefly in the following numbered paragraphs, in which the num-

¹ "Statistical Uses of Accounting Data," ACCOUNTING REVIEW, Vol. XLIX, No. 3, July, 1944, pp. 260-266.

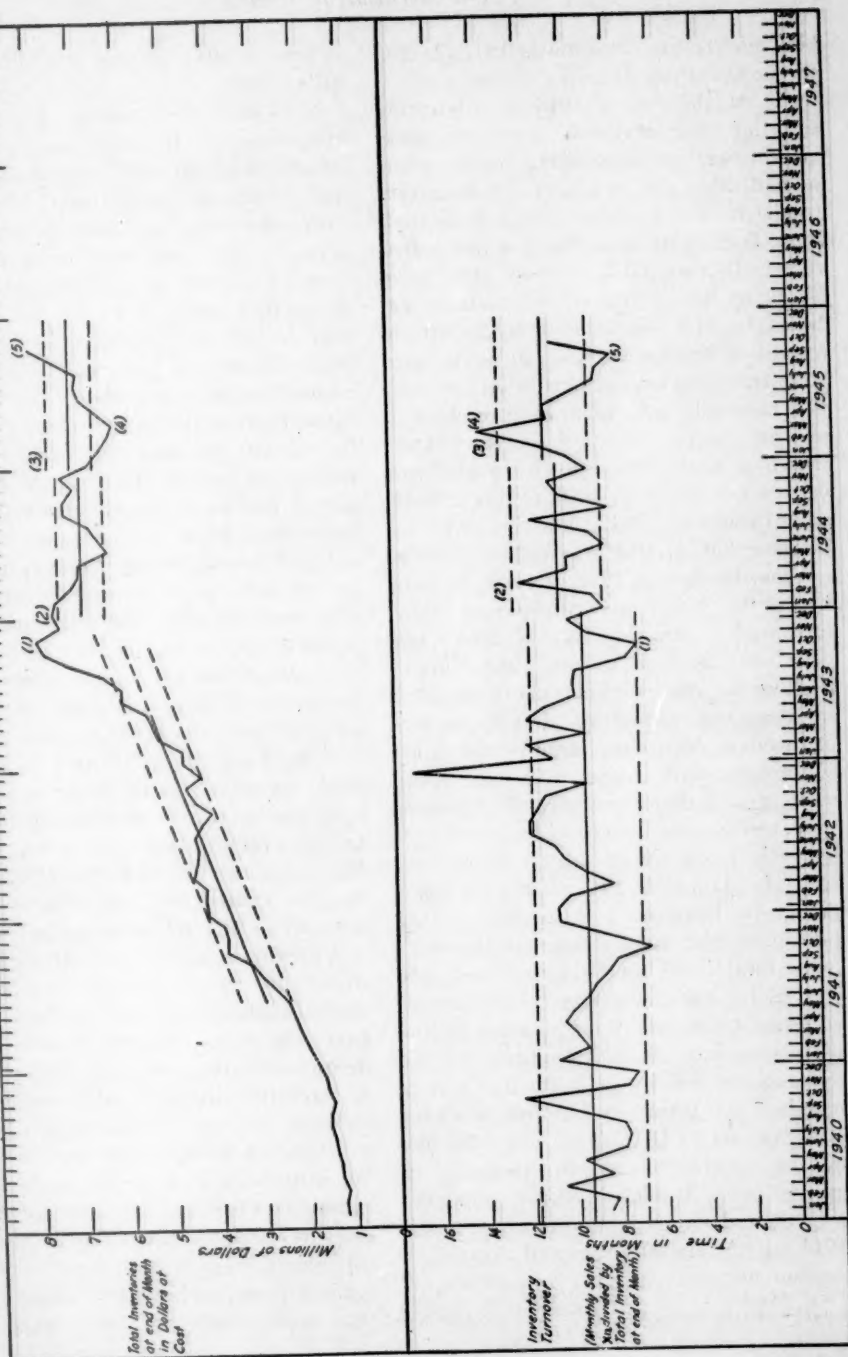
² The statistical techniques used in calculating trends and limits grew out of those described in the previous article. Space does not permit a full exposition of them here.

Action Chart No. E
Prepared by Jan. 15, 1947
Date

XYZ COMPANY — INVENTORIES

Total Inventories as of the End of Each Month in Dollars, and Inventory Turnover

Period Covered
From Jan. 1940 to



bers refer to the notes marked (1) (2) etc., on the accompanying illustration.

(1) At the end of 1943 an interesting situation was revealed. For four years inventories had been rising rapidly—but so had sales, as the absence of long-term trend on the turnover chart indicated. Since fluctuations in dollar inventories had remained reasonably narrow, the wide limits on the turnover chart (from 7.0 times to 11.8 times) pointed to erratic variations in monthly sales. These, in turn, were traced to fluctuations in factory output, caused by a breakdown of production control under wartime pressure. Outstanding examples of such breakdowns occurred in October, 1940, October, 1941, and December, 1942, low turnover indicating low production, and vice versa.

From December, 1942, through November, 1943, dollar inventories rose uninterruptedly, breaking out of the upper calculated limit in August, 1943. This in itself was no cause for great alarm provided sales rose correspondingly; but the decline in turnover during the same period called a warning that inventories were rising more rapidly than were sales. By October, 1943, the turnover was touching the danger line—the lower action limit.

(2) In January, 1944, with the comprehensive historical view afforded by the past data, the management of the company established its 1944 inventory objective. In order to reverse the downward turnover trend and bring it more in line with what was considered normal for the industry of which the company was a member, the inventory turnover goal for 1944 was set at 10.5 times. The solid line on the turnover chart puts this goal in graphic form. A dollar-inventory objective was then derived by dividing estimated 1944 sales by the turnover goal thus:

| | |
|--------------------------------|--------------|
| Estimated 1944 sales..... | \$72,600,000 |
| Turnover goal..... | 10.5 times |
| Total inventory objective..... | \$ 6,900,000 |

shown in 1944 as the solid line on the dollar chart.

Note how flexible such an estimate of inventories is. If actual sales should be considerably different from the sales estimate, dollar inventories should be allowed to deviate accordingly; but the relationship between sales and inventories should be held as closely as possible to the predetermined goal. That is, the turnover may be allowed to fluctuate within the limits drawn on the chart. It may be allowed to go above the upper limit because that would be desirable; but if the line should go below the lower limit, an immediate investigation should be made and, if necessary, drastic action taken. In September, 1944, the curve at one point did go below the lower turnover limit, but the pressure that management applied at that time brought about a definite upswing in the succeeding months.

(3) When the time came to set the objective for 1945 it was apparent that, in spite of wide fluctuations, the goal for 1944 had been successfully met. In January, 1945, therefore, the president of the company decided to raise his sights again, and to take an 11.0 times turnover as his goal. The 1945 sales estimate of \$78,000,000 divided by this figure gave the dollar-inventory estimate of \$7,100,000 shown on the chart.

A previous study of competitors' balance sheets and an analysis of the company's operations had led to the conclusion that a twelve-times turnover was reasonable and desirable for this company. The plan was to reach the ultimate goal by yearly steps difficult enough to challenge the best efforts of all the executives concerned, but not so difficult as to be impossible or discouraging. One of the greatest advantages of charts such as this is the aid they give top management in setting challenging but realistic goals, and in approaching year by year more closely to a long-range objec-

tive. The writer has yet to discover any other method that will give such coherent, rational, and morale-building results.

(4) In January, 1945, the sales department had been instructed to put on a strong special campaign to clear out of finished inventory approximately \$1,000,000 of slow-moving items. During the next two months the results of the campaign became apparent on the chart, and in March dollar inventories broke through their lower limit and turnover broke out above its upper limit. Both of these favorable signals told top management that the sales department had done an excellent job. Top management men often wonder how they can correctly gauge the effectiveness with which their policies and instructions are carried out. Here is a clear and graphic tool by which they can measure the success of their executives in fulfilling definite assignments and in carrying out general policies.

(5) After the splendid results in the first part of 1945, it was a shock when the turnover chart broke out on the downside in July and August, whereas dollar inventories soared to new highs. Contract cancellations at the end of the war had caught the sales department unprepared to fill up the lost volume with regular-line goods. The factory found itself with large quantities of partly-finished war products still in process; at the same time new material had to be started through the plant to keep the machinery and men busy. Prompt action by management, however, forestalled a serious crisis. A sales meeting of all field men, held in September, boosted October sales so that inventory turnover returned nearly to normal. Dollar inventories remained at a higher level until contract cancellation agreements were signed, and they also returned to normal as the flow of peacetime productions began to get under way.

It might be argued that these effects of the end of the war would have been realized by top management without the aid of the chart. That is undoubtedly true, but the strength of action charts is found in a number of factors: (a) in their graphic appeal to understanding through the eyes, (b) in the power they have to sell all levels of supervision on the necessity and wisdom of management policies, and (c) in the completeness and clarity with which they enable the men at the top of a business to trace the effects of such external events as war, peace, price changes, booms, and depressions. A single chart on inventories or any other aspect of the business does not alone suffice; but in a comprehensive set of charts good understanding is often greatly strengthened by the interrelations so easily perceived.

The more deeply this graphic method penetrates into a business, the more useful it can be. The chart on total inventories can be supported by a series of subsidiary charts on finished goods, work in process, raw materials, and supplies. Total sales can be itemized by territories and by products. Costs can be broken down as to labor, raw materials, and overhead. Departmental budgets can be set up and controlled. No claim is made that action charts are all-inclusive or all-revealing. However, the writer's experience shows that they do put into the hands of management another modern, scientific tool for improving the effectiveness of operating control.

As to the significance of the dotted action limits shown on the chart a further word should be said. The action limits are the rails upon which a business should be run in order to reach the desired objective. Wherever they appear they define the area of acceptable results, and call for something to be done when any department, individual, or circumstance fails to be acceptable. They need not be calculated

mathematically except upon *past* data. For *future* guidance the limits can be set by management; and, by placing upon management the responsibility for defining

clearly what is desirable and what is not, these limits can sharpen the thinking and clarify the judgment of the men who make the final decisions.

INTERNAL CONTROL IN INDUSTRIAL ORGANIZATIONS*

W. S. SWAYZE

SINCE the question of internal control has lately attained a great deal of prominence, the impression seems to be that its importance has arisen as a result of comparatively recent events. However, internal control was not pushed upon the accounting world by the Securities and Exchange Commission; nor did its importance arise as a result of the numerous investigations of auditing and auditing procedure which came as a result of the so-called McKesson & Robbins case. The subject has been an important matter for many years, increasing in magnitude as the size of business organizations increased and management was thus removed further and further from direct knowledge of the details of operations and the efforts at maintenance of enterprise values.

The establishment of proper accounting organizations embracing adequate systems of internal check and control became of particularly early interest to the public accountant. As business expanded, it became increasingly apparent that detail audits would be feasible in fewer and fewer instances, whereas the public accountant was being called upon to certify to the accounts of increasingly larger enterprises. Therefore, for several decades he has been vitally interested in the establishment of more effective systems of in-

ternal control as, with the virtual abandonment of the detail audit, the extent of the effectiveness of these systems has necessarily controlled the ebb and flow of his auditing procedures: that is, the contraction and expansion of procedures which he has designed to disclose the facts adequately with an economically feasible expenditure of time and effort. Incidentally, in passing, I should like to make the point that the public accountant is not necessarily *approving* the system of internal control in effect in his client's organization when he states in his certificate, "We have reviewed the system of internal control. . . ." By continuing his certificate without qualification, he is only stating that he has made an examination which, in the light of the system of internal control in effect, enables him to certify to the accounts under review.

As the subject of internal control is so often associated almost entirely with the prevention of defalcations, it may be well to discuss our understanding of the term. Custom and convenience have caused internal control to be referred to as if it had a separate identity or existence; this is far from the facts. It is part and parcel of the accounting system, although perhaps evaluated from a particular point of view.

Writers of texts and accountants in discussions have attached all manner of meanings to the term "system of internal

* Read before the Dallas Chapter of NACA.

control," but it is usually defined in a rather narrow and restricted sense. It is frequently described somewhat as follows, "those measures and methods adopted within an organization itself to safeguard the cash and other assets of the company as well as to check on the clerical accuracy of the bookkeeping." This, to me, implies a narrow concept, although it may intend much more. It emphasizes the concept of protection, the guarding of assets from misappropriation. There is also the implication of separate and distinct procedures superimposed upon the other procedures of the accounting system. Internal control actually embraces a larger field, and it makes a more objective contribution to the accounting function.

Internal control, to me, is nothing in the world but proper accounting organization. It is that distribution of duties and organization of routine which produces accurate, timely, and informative reports and statements in the ordinary course of events, rather than as a result of a turbulent and sustained effort on the part of supervisory accounting personnel as the deadline nears, as so often happens. It is that system which uses available talent to the very best advantage and employs records so designed that each is necessary and collateral to the other, rather than overlapping and duplicating. It is that system which also safeguards and controls so well that it becomes extremely difficult for assets to be misappropriated and the fact remain undetected. While we are generally avoiding the protective features of internal control in this discussion, it is an interesting observation that an accounting system not so organized often serves as a means of defeating its own purpose in that respect. It allows assets to be diverted while the figures still stand as strong evidence that the property has not been misused.

If we are to attempt to define internal

control in a few words, a preferable definition seems to be the one given by Victor Z. Brink in his book *Internal Auditing*. He says, "Internal control refers to the methods and practices of all kinds whereby the accounting forms and records, and the procedures affecting their use, are all coordinated and operated in such a manner that management derives from the accounting function the maximum utility for its purpose of information, protection and control." Mr. Brink's definition relates itself to the entire accounting cycle, its forms, methods, and procedures. Internal control becomes the proper coordination and combining of all the individual parts of the accounting system, and not just those referring to cash and securities.

It is not practicable here to attempt to set forth any complete outline of an effective system of internal check and control. To present any comprehensive list of necessary principles would involve discussion of such fundamentals as double-entry bookkeeping—which we have generally found to be the most effective basis for internal control—or such details as prenumbered forms. Rather than attempt this, I should like to give some of the principal criticisms of systems of internal control as we find them. I shall make an effort to deal with criticisms having a general application, and explain how they have applied to specific instances. It may be well, however, to point out that none of these criticisms relate to our clients' organizations. I should also like to mention that these criticisms apply to wartime industry probably to a larger extent than to peacetime organizations. Nevertheless, the same shortcomings have a tendency to creep into even the best regulated systems.

1. There are places where excellent systems have been devised and installed—a great deal of constructive thought and sometimes considerable expense being put

into their creation—but the systems never operated as intended. There was no follow-up after the procedures were established to determine whether they were functioning as intended, whether directions were being followed or even whether the procedures fitted the situation or because of unforeseen difficulties had not the slightest chance of functioning effectively. In many such cases, excellent replies were obtained from accounting department heads in reply to questions regarding internal control. Further investigation often disclosed, however, that, while the accounting official had a very good idea as to how his department should operate, he was woefully ignorant as to how it actually functioned.

In mentioning this, I am not referring to the multitude of details which no one in any administrative capacity could ever hope to remember at all times. I am speaking of instances like the one in which a considerable variation existed between the book and the physical inventories. Since the material involved was used for construction, it could not easily be carried out of a fenced and guarded plant without proper authorization. Investigation uncovered several hundred unrecorded requisitions which substantially accounted for the difference. The accounting system in use provided for prenumbered requisition forms; but since numerous series were in use at one time, there had never been any attempt to account for all numbers. Correction was made by adopting the practice of numbering requisitions at the issue window of the warehouse. This involved only the purchase of a small hand-operated numbering machine, and made the accounting for requisition numbers and accounting-period cutoffs a simple matter.

There are other examples of excellent procedures for the detection of irregularities but with no follow-up or investiga-

tion of differences uncovered. For instance, I have seen work divided in a large organization to the point where one person did little else but reconcile bank accounts. However, when he discovered anything unusual or perhaps irregular, he referred the matter to the cashier for action and promptly dismissed it from his mind. The cashier of course, was the very man toward whom most of his efforts were supposed to be directed.

2. Another prevalent weakness in accounting systems seems to be that the procedures and methods do not properly fit the situation. Any system must be adjusted to fit the needs, the size, and the complexity of the organization, or it does not serve its purpose. Many accounting executives, becoming overzealous in designing systems of internal control, have adopted methods and procedures such as are used by much larger and more complex organizations than their own, when a more simple and direct procedure would have been much more effective and desirable. It is not necessary, for example, to carry the segregation of duties in a small organization to the point where, as one businessman expressed it, if the principles of internal control were followed, only the janitor would be eligible to reconcile the bank accounts. This employer had only a few accounting and treasury employees at the time and was handling large amounts of government funds. He was seriously concerned about the situation and did not want to leave his organization open to any future criticism regarding the control of government funds. A system was worked out which suited his responsibilities, and the janitor has not yet been called upon to reconcile the bank accounts.

Larger organizations are probably more guilty of oversystematizing than are the smaller ones; the latter are more often guilty of having no system. Branches and small subsidiaries often adopt practically

all the accounting procedures and forms of the much larger home office or parent company. These systems probably work well in the parent organization and their use in the small offices is sometimes justified by the fact that it is desirable for the accounting in all locations to be on a similar basis. Frequently, however, burdensome and complicated procedures are installed merely because the individuals involved came from the parent company and were long trained in doing matters a certain way. In one example a major oil company, because of the centralization of accounting in its home office, requires of its various refineries and offices a daily report of materials received into stock and materials issued, the related requisitions remaining at the operating plant. When a comparatively small subsidiary was formed most of the accounting procedures of the parent were adopted. This was carried to the extent that, although the warehouse of the subsidiary was easily accessible to its general office, the warehouse retained all three copies of receiving reports and requisitions and laboriously typed daily detailed reports of materials received and issued solely to furnish a source of original entry to the accounting department. Carbon copies of the receiving reports and requisitions are now forwarded to the accounting department and an unnecessary duplication has been eliminated.

Oversystematizing is probably most easily recognized in cost systems. Some cost accountants seem to delight in forming departments or cost centers. If left alone, they will often attempt departmentalization of practically every operating unit in the plant, however small. Such complications and red tape, however, only make the accountant's selling job to management a more difficult one. Frequently they will prevent him from getting the cooperation from operating departments he requires

to make his own efforts an unqualified success.

3. Systems of internal check and control often are well designed to fulfill a particular need and then are not consistently followed. Employees are sometimes allowed to invalidate by exceptions a system that is excellent otherwise. This usually begins as a matter of expediency which may speed up the routine at the time; but it can certainly make worthless the most complete system of control in a remarkably short period of time. The allowance of exceptions becomes a habit and, when permitted, is taken advantage of more and more frequently by employees. The malpractice may come as a natural result of an overcomplicated system of accounting and control. The burden of red tape may have become so irksome and heavy that employees shirk the routine whenever possible. However, it has often seemed that this rather loose attitude toward established procedure, when present at all, tended to permeate an entire accounting organization. In other words, it appeared to come from the attitude of executive personnel. When the accounting executives demanded discipline and did not lightly dismiss serious exceptions brought to their attention, employees did not often take the liberty of not following required procedures.

Exceptions are also often brought about by ignorance. Employees may not be adequately trained and may be given their instructions orally. Verbal instructions have a peculiar way of being misunderstood or forgotten. I shall place more emphasis later upon the importance of written procedures.

It is not difficult to recall various examples of exceptions which actually sabotaged a system. One of them was a situation in which control was established over outgoing materials by requiring the issue of material pass-out slips signed by certain

authorized executives before material could be taken out of the plant. The material involved included such items as clothing, expensive small tools, and cafeteria supplies, and was under the control of the storekeeper, who was not authorized to sign the slips. However, with the knowledge of the executive in question, the storekeeper gradually adopted the practice of signing the authorized executive's name as a matter of convenience. That system was no longer controlling.

4. There is another weakness encountered in various organizations and in varying degrees. It is a condition which has been increasingly prevalent during the war and will probably persist until the manpower situation greatly improves. That is the concentration of duties in a restricted number of people because the accounting executive in charge considers them the only individuals on his payroll capable of doing the work. This is a situation which most accounting officials have probably had to fight hard during the past few years. The matter in some organizations reached almost ridiculous proportions and represented the virtual abandonment of any type of system. The work was done by a few old employees who merely farmed out piecemeal those portions of the work they felt it was safe for some of the inexperienced help to perform. The latter employees had very few routine procedures for which they were responsible and did only that work which their superior gave them from day to day.

The practice is a vicious one. It not only forces the entire accounting organization to depend upon too few individuals but it tends to perpetuate itself in that it is poor executive training for supervisory employees at the lower levels. These employees become highly skilled and proficient in doing the work required if they can do it all themselves, but they become confused and inefficient when attempting

to direct others in doing the same work. They become skilled laborers rather than executives.

Further, it is also vicious because many accounting executives, under the pressure of their own difficulties, do not realize that the practice has crept into their department, at least not to its actual extent.

This situation when present, can be eased materially by the adoption of written procedure manuals, which will, in turn, greatly facilitate the training of new employees and the proper distribution of duties.

5. While the concentration of work in too few people is basically a wartime situation, there is another criticism which may be made of a good many organizations in both war and peace. This is the retention of old and antiquated procedures which do not fit the situation today. I refer to systems which were established in years past and are followed today merely because—and I quote many voices—"Why, we have always done it that way." This is usually considered a good and just reason for any practice, and no other explanation is thought to be necessary. This situation seems to develop as a matter of inertia. Either everyone is too immersed in detail to consider modernizing the procedures or, as I have seen in a few cases, the system was established by the present chief accountant's superior, who has since been promoted. In such situations, the chief accountant is often very reluctant to criticize or attempt any basic improvements of the system.

Nevertheless, the requirements of business are changing too rapidly for an accounting system not to need constant change and reconsideration. It cannot remain static and continue to be effective. It is somewhat like a man's education in that it cannot be maintained at a level once reached without further effort. Any attempt to remain stationary can only

result in moving backward. Constantly changing conditions demand new methods, new arrangements of personnel, new procedures, and new equipment. Accounting departments and accounting executives must be at least as progressive as the operating departments or, instead of being considered an important aid to management, they will find themselves badgered and condemned as a "necessary evil."

While there is no substitute for an aggressive and informed executive in keeping the accounting system abreast of the times and of his organization's tempo, there are various methods which we may discuss without giving consideration to this point which is a human element and entirely up to the individual concerned.

For example, there is the written procedure manual, of which we see so little. It is rather difficult to understand why an accounting officer, who is usually as insistent as an attorney about requiring all things to be in writing, will only "brief" his own employees orally in long and detailed procedures, and thus trust his office routine to habits and memories not always of the best.

The procedure manual can be a most effective method of fixing responsibility and for insuring that the details of an office will function in the manner intended. It cushions the shock of the inevitable changes of any progressive organization. The manual should outline the duties and responsibilities of each section in considerable detail as well as the approved method of initiating, routing, and recording transactions. It must, of course, be well organized and should be in loose-leaf form in order that it may be easily revised.

Departmental and organizational conferences and meetings appear to me to be helpful if properly and seriously organized.

The meetings of section heads within the accounting department should help the individuals concerned to understand the "why" of certain procedures which some of them may consider a burden on their own small groups. Organizational meetings of departmental heads at the top levels should be most welcome to the accountant. He should be able to discover here various ways in which he can be of more service to management, and he certainly has an excellent opportunity to explain the necessity for information he constantly requires of reluctant operating personnel.

Beyond this, for concerns that are large enough to warrant the expense, there is an excellent aid to accounting and internal control in an internal auditing department. An internal auditing staff headed by an individual with sufficient ability and vision to realize the full scope of the possibilities of his position, and the aggressiveness to do something about it, can make a real contribution to the efficiency of his organization. He should be a friendly but aggressive critic of procedures and methods; and his personality must be such that his criticisms do not breed resentment. If he conducts himself in this manner, his very presence will cause employees to follow established procedures and to attempt greater accuracy and efficiency.

This appears to me to be an excellent field from the ambitious individual's point of view. It is a field that is attaining new recognition and importance as fast as it contributes more and more to management. The capable internal auditor has the opportunity to make numerous special and valuable reports and to advise management from the point of view of a more or less detached observer who devotes full time to a critical examination of the problems of a particular business.

REDUCING ACCOUNTING COSTS

V. F. COVERT

MUCH has been said and written about the miracle of production accomplished by American industry during the war; and undoubtedly most people think of that accomplishment in terms of such items as tanks, planes, ships, etc., which were produced in unbelievable quantities. Accountants may not wish to use the word "miracle" as applying to their contribution to the war effort. But they are in the best position to appreciate the accounting problems paralleling the increased production demands. These have arisen because new products going through the factory created new cost and estimating problems. Additional accounting records were brought about by an increase in government requirements under the Walsh-Healy Law, the Wage and Hour Law, etc., and also by the fact that government business entails many requirements which are not necessary, or are less needed, in our commercial operations. Cost contracts, cost-plus-fixed-fee contracts, OSRD contracts, certificates of necessity, and the operation of government plants all required special accounting procedures, and in addition accountants took a much more active part than usual in the planning and direction of wartime activities.

I believe that accountants were forced to work more closely with management during the war than at any other time in the history of American business. This opportunity for the accountant to broaden his thinking should not, and probably will not, be lost in the return to regular commercial operations. But present conditions invite serious consideration of our future accounting policies and practices, particularly those in the larger manufacturing companies.

In most large companies, the sales, engineering, and manufacturing organizations were able to drop very quickly the activities and requirements peculiar to wartime government business, and could concentrate upon the reconversion to peacetime production. Accountants, however, continue to have a great deal to do in developing the necessary detail costs and preparing claim information necessary in completing the settlement of cancelled and terminated contracts. At the same time we have to keep in step with the operating department's reconversion program in order to maintain the same quality of service to our company as was given during the war period.

One of the immediate and most important problems of the accountant in a large company is to review the special procedures, records, and statements essential to wartime production and eliminate those not absolutely necessary to peacetime operation. At the same time he must plan the most economical and efficient peacetime operation that can be organized to maintain the proper service and relationships in the immediate period ahead. I believe there are four basic principles which, if carefully followed, will go a long way towards insuring good accounting operations for providing prompt and accurate accounting information. These four principles are:

- (1) Develop an organization of people and of clerical procedures that will permit segregation of the work of handling large volumes of identical papers and simple, economical, and routine operations. The selection and proper application of modern office appliances to these routine operations is important.

- (2) Having developed the procedures and selected the equipment, establish production and time schedules for each operation so that there is a steady and controlled flow of all detail papers from point of origin to ultimate completion.
- (3) Make a constant review (a) of reports, statements, and reference records to eliminate duplication and insure that the use justifies the cost of operation, and (b) of paper records of transaction to insure, as far as possible, that the necessary information has been completely, accurately, and promptly recorded.
- (4) Assist in developing the plan of organization of operating departments to keep transactions to a minimum and to avoid complicated, repetitive, and combined operations.

The automobile industry was probably the first large industry to recognize the possibilities of breaking down the construction of a complicated piece of apparatus into simple, routine, repetitive operations and to place each operation in its proper position in the factory in relation to all the prior and the subsequent operations. To accomplish this, it was obviously necessary to visualize the source and manner of providing original raw materials and to have an exact knowledge of the finished product. Having studied in minute detail the sequence of operations necessary to convert the raw materials into the finished product, production men were able to see how detail routine operations might be determined, and to provide special training, special tools—even special screw drivers and wrenches—so that the operation would be the most efficient that could be conceived.

I believe a similar vision of many of our accounting operations invites the same segregation to detail specific operations and the providing of special tools for each

job. These tools can be special desks, special forms, special calculating equipment, bookkeeping machines, tabulating equipment, or any of the hundreds of items available for economical office operation. I want to emphasize that the operation in itself can only be efficient and economical when it is set up in its proper relation to the over-all production line, and when the office appliances used in the operation are properly applied and contribute to a smooth flow of work. There have been many instances in my experience in which, in an attempt to take advantage of modern office appliance features, we have overlooked the advantages of conceiving and maintaining production operations that would insure the proper fitting of individual routine operations into the over-all schedule. In one instance we found that in our attempts to take full advantage of modern office equipment we actually increased the cost of the operation.

In most large companies, two of the routine operations in the payroll department are (1) to calculate the gross earnings of the employee and (2) to pick up gross earnings and make the necessary payroll deductions while developing both the net cash payment to the employee and sufficient deduction detail to account properly or the respective deductions. There are a number of office appliances which will combine the operation of calculating the gross pay and carrying the records through to the final net pay figure, and at the same time provide the necessary detail deduction information. For several years we used such equipment with satisfactory results. But later, with the above basic principles in mind, we made a very careful study of the operation and found that we could do a better and more economical job by dividing the over-all operation into two routine elements; (1) calculating gross pay and (2) picking up gross pay and carrying

it through to the net pay, with the deduction record as a by-product of writing the check for the employee. To be sure, this involved additional items of equipment but the over-all result was more economical. It reduced the possibility of a bottleneck through machine breakdown; it made it possible for employees to be trained more quickly and become more efficient on the divided operation. This meant that we reduced our cost by making two operations out of what previously had been set up as one combined operation. This example illustrates what is meant by the "segregation of simple, economical, and routine operations, and the application of appliances to these operations."

In dealing with the second principle we can well afford to keep our thoughts on the automobile industry's production line. Only by carefully planning and establishing the proper sequence of simple routine operations can we obtain the desired continuous, steady, and controlled flow of detail papers from their creation to their ultimate completion. Obviously, only by a careful determination of the time necessary to complete any of the routine operations can we determine the number of employees and the equipment needed to insure continuous flow through each of the points at which these routine operations have been established. Again an example will best illustrate this particular principle. In planning our operation from the point of picking up the time slip from a workman to the time at which he will be paid for that work, we have found it most economical actually to schedule each operation throughout the whole series. In one plant with about six hundred hourly-rated employees, we first designed a card on which was recorded each step necessary to get the time report from the workman to the payroll department. These steps might be somewhat as follows:

(a) Time clerk gets the time report and

delivers it to the foreman for approval.

(b) Inspector must approve for quality of work.

(c) Stock controller might be required to receipt for quantity of items completed.

We planned to pay all of these employees weekly, in the week following that in which the work was done. A certain number of employees were to be paid on Tuesday, more on Wednesday, some on Thursday, and the rest on Friday. We prepared a card for each employee with all these clerical operations recorded on it. This card was actually taken to the employee, who signed a statement to the effect that he understood that if he did not have his final time reports for each week ready by 9:15 A.M. on Monday of the following week, he would not get paid at 2:00 P.M. the following Thursday. The foreman signed: "I understand that if I do not complete the approval of time reports for employee #346 by 9:45 A.M. Monday, he will not be paid at his scheduled time of 2:00 P.M. Thursday." The inspector signed a similar statement regarding approval of the quality of work claimed to have been completed, and the actual time his own work must be completed. The stock controller signed a similar card recognizing his responsibilities. The payroll supervisor signed a card which in effect guaranteed that if the time reports for employee #346 were delivered to him by 11:30 A.M. Monday, he would have the pay check ready by 2:00 P.M. Thursday.

This example of scheduling clerical operations was at first met with suspicion. But after it was actually put into effect it not only resulted in a very satisfactory reduction in our clerical costs of preparing payrolls but soon had the enthusiastic support of the program by those involved. Incidentally, in the first week or two some people involved in the series of operations

were not quite sure that we meant what we said, and either carelessly or intentionally delayed completing their particular part in the program. To be sure, the payroll department could have picked up these minor delays; but according to the pre-arranged schedules we deliberately refused to pay the employees. The result was that the personnel department and the general superintendent had very vigorous complaints from the employees, but we had the necessary backing to enforce the program and the trouble disappeared within two or three weeks. I believe this example is a good illustration of what is meant by basic principle number two.

Regarding the third principle, most people who have been employed in large industrial accounting organizations for any length of time fully appreciate the need for constant and continuous review of various statements and records to insure that they are kept up to date and reflect the changing conditions within a growing organization. While this constant review is essential, it is probably well enough understood so that no particular emphasis need be placed on it here.

However, I believe that a careful study of the documents processed through the accounting department will probably show a surprisingly large proportion of detail papers originating outside the accounting department, for example, detail descriptions of articles shipped, articles purchased, materials received, requisitions for raw materials for stores, etc. Individuals who create an accounting document are more likely to be interested in completing the transaction from its physical side than from the record-keeping point of view; and too frequently there is carelessness in recording complete and accurate information. The obvious result is that such information when processed through the accounting department either produces incorrect results or, if the error or omission is

discovered before the final result is tabulated, the cost incurred in getting complete and accurate information is many times the cost of a little more care in originating the form.

It is generally true that the higher up in the organization one goes, the more appreciation he finds of the value of performing each recording operation accurately; but there is still need for a great deal of training or teaching of production clerks, inspectors, order clerks, stock room clerks, and others by the accountant. Almost every one recognizes that an actual loss occurs if a piece of raw material is partly processed before a flaw is discovered; therefore we find inspection procedures coming early in a shop-production cycle and operated rather continuously through the complete cycle so that mistakes are caught before too much waste of effort has been incurred. Something of this sort needs to be introduced to insure accuracy in the early stages of handling accounting documents. If we could find a satisfactory way to bring out the cost of "defective work" in our clerical operations it would help in saving clerical expense.

The fourth principle deserves most careful attention. Every accountant in an industrial organization has many, many times heard the operating man's complaint about red tape, unnecessary records, etc. But too little is made of the fact that the accountant does not create the transactions; the so-called paper work is introduced only because it has been determined that transactions created by administration, sales, engineering, or manufacturing departments and by government regulation necessitate a record. Transactions are created not only by sales and purchases but also in great numbers by policies and regulations.

As an example of how transactions are created by policy or government regulations consider payroll-tax deductions. At

all plant locations we have withholding tax and Federal old-age benefit deductions and, in some locations, we have a state unemployment compensation tax and state or city income taxes to deduct. For each of these we record a separate transaction (deduction) each week (or month) and accumulate the deductions into one total for each of the four taxes each month, or quarter, or year, and pay the total so accumulated to a government agency. We also accumulate for each of the four taxes the wages earned for the quarter, or year, and report the totals so accumulated, as well as the total tax for each employee, to the government agency. If we could ignore the letter of the law and were required to live up only to the spirit of it, or if we could start over and make one regulation that would permit one weekly or monthly deduction with annual settlement on the basis of an accurate distribution of funds deducted, innumerable transactions which now necessitate separate records could be avoided.

It is probably the fault of the accountant that this condition or situation relative to paper transactions has not been better understood throughout the organization. Generally, accountants have gone on the defensive when there was a complaint of too much paper work or red tape, whereas they should present the facts and show the organization that such accounting records are in existence only because the operating departments have so planned their procedures as to make record keeping essential in many unnecessary stages. An example will help illustrate this point.

In our line of products, a great many sheet-steel punchings are required, and the natural plan of the manufacturing department had been to locate the punch presses in a way to insure the most continuous operation, even though it meant

serving several different machining or assembly departments located at varying distances from the punch presses. Recent studies of this particular production layout developed the fact that presses could be located in the department using the product, and the saving obtained in the handling of material justified relocating the equipment. I am sure that the operating people were much surprised when told that the elimination of the interdepartmental paper work would probably produce a saving equivalent to that obtained through the reduced material handling.

Lest this seem to be an exaggeration, I want to point out that the various departments have definite problems to meet in attempting to schedule their own production or planning to fit in with the centralized punch-press operation, in carrying on the necessary interdepartmental contacts needed to maintain production schedules, and in doing the paper work necessary to order material, to record the movement of material from raw-materials storerooms to presses and from presses to the department where it is finally used. In other words, paper work does not just happen; it is the result of considerable prior effort on the part of two or more employees who have agreed to carry out specific transactions. The document or record merely confirms the transaction agreement.

This particular principle or phase of an economical clerical operation probably offers the largest field for large and immediate savings. It might be summed up by saying when we reduce or eliminate an interdepartmental transaction, we reduce or eliminate the attendant clerical expenses accordingly. Let me repeat: The best way to reduce clerical expense is to eliminate every unnecessary transaction which requires the making of a record.

TAXATION OF WAR LOSS RECOVERIES

JAMES J. MISCHLER

THE Revenue Act of 1942 established legislation regulating the manner of taking war losses. The right to deduct such losses in computing taxable income had already existed under the casualty-loss provisions of the income tax law. The major objectives of the new additions to the Code were:

1. To establish rules for the fixing of loss dates for tax purposes.
2. To make loss deductions more readily available to taxpayers:
 - a. By defining the classes of property giving rise to deductible losses, and
 - b. By providing a procedure for determining the amounts of losses.
3. To provide the tax treatment of recoveries.

After the first World War, property losses were difficult to establish, because there was a lack of specific provisions in the law and regulations, and this gave rise to delays, complications, and numerous inequities. Section 127 of the 1942 Act was provided to avoid a repetition of the previous experience. The taking of deductions was facilitated by allowing them on the presumption that the property had been destroyed or seized. As an illustration, loss deductions with respect to property in enemy countries were made available to a taxpayer without proof of actual destruction or seizure.

In general, as to losses, Section 127 of the Internal Revenue Code provided that if property not in enemy countries was actually destroyed or seized on or after December 7, 1941, in the course of military or naval operations by the United States or any other country engaged in the war, the loss could be taken on any date established to the satisfaction of the Commis-

sioner, between the last date it was determined that the property might be considered as destroyed or seized and the earliest date on which it was determined that the property was destroyed or seized. As to property in countries at war with the United States or within any area under the control of an enemy country, the date of the loss was fixed as the date war was declared by the United States on such country. With respect to property located in an area coming under enemy control after war was declared by the United States, it was provided that the taxpayer could choose a date between the date such area was under control of the United States or a friendly country and the date under which the area was controlled by the enemy. Losses on investments on property destroyed or seized were to be treated as casualty losses on the dates determined in the same way as for property.

The war-loss provisions were applicable to taxable years beginning after December 31, 1940, but no war loss could be sustained prior to December 7, 1941. To come within the act, property had to be in existence on the latter date.

The major point to be observed is that the new provisions made it possible for taxpayers to get the benefit of the loss deemed sustained in an enemy country at the approximate time deemed sustained, without actually proving the destruction or seizure of the property involved. This latter would have been a virtual impossibility under the then existent war conditions. As to property not in an enemy country, the Code and the regulations were sufficiently detailed to make an equitable application reasonably possible. The regulations indicate the intention of liberal interpretation.

At the time of writing the 1942 Act, it was recognized that after the war many properties deemed destroyed would be recovered in whole or in part. Under such circumstances it was provided that the recoveries would be taxed in view of the prior deductions for losses considered sustained. The problems surrounding the application of the recovery provisions of the Code and of the Regulations applicable thereto provide the subject matter for certain general observations that follow.

Section 127 (c)-(1) of the Internal Revenue Code states the general rule that "Upon the recovery in the taxable year of any money or property in respect of property considered under subsection (a) as destroyed or seized in any prior taxable year, the amount of such recovery shall be included in gross income to the extent provided in paragraph (2)." Paragraph 2 states in part that "The amount of the recovery of any money or property in respect of property considered under subsection (a) as destroyed or seized shall be an amount equal to the aggregate of such money and the fair market value of such property, determined as of the date of the recovery."

It is to be noted that recoveries are to be included in taxable income in the year of recovery; that they are to be considered in the aggregate, not individually; and that fair market value shall be the basis of value as of the recovery date.

Section 127 (c)-(2) further provides in effect that the taxpayer may recover on a tax-free basis that portion of his loss for which he received no prior tax benefit. If the recovery exceeds the useful amount deductible in previous years as a war loss, the excess shall be considered a gain upon an involuntary conversion of property and shall be recognized or not as provided in Section 112 (f). The basis of recovered property is set forth in Section 127 (d) as the fair market value on the date re-

covered reduced by that portion of the fair market value which represents gains upon the property not recognized, and increased by that portion which represents recognized gains arising from an involuntary conversion.

In explanation of the foregoing, consider two types of losses that did not benefit the taxpayer:

1. Losses not deducted.

2. Losses deducted but useful taxwise only in part.

Until the aggregate of recoveries exceeds the taxpayer's allowable war losses in prior years that did not result in a tax benefit, no portion is included in income. The aggregate recovered in excess of the total war losses that did not benefit the taxpayer are included in ordinary income to the extent that they equal the amount of useful tax-benefit deductions. Beyond such latter amount, the recovery excess is treated as a gain from the involuntary conversion of property under Section 112 (f) of the Code. If the gain is recognized, then Code Section 117 (j) would apply. The gain will not ordinarily be recognized if the same property is recovered and gives rise to the excess, or if an excess value is received in a form different from the original property, it is promptly converted into property of similar or related service and use.

The foregoing is but a brief presentation of the highlights of certain of the war-loss provisions. They will serve, however, to preface some general observations regarding inequities in the present statutes and complications as to their application.

First, there is no provision in the present law for establishing the time when recoveries shall be deemed to have been effected. In the Revenue Act of 1942, the establishment of loss was the important factor for consideration; hence, rules fixing the dates of loss were incorporated in the law. It was natural that this should be done, for

when the 1942 Act was written, there seemed to be need for immediately and precisely dealing with losses. More recently, however, the recovery is all-important, and it is obvious that rules will have to be established for fixing their dates. The National Foreign Trade Council, Inc., has presented the thought that the converse of the rules for determining the time of loss should be established for the time of recovery. On this basis, the taxpayer would have the right to choose a date which falls between the earliest date on which he constructively reacquired control over his property and the latest date on which it was under his full and effective control.

For example, certain property may have been located in an area that came under the control of the United States or one of the United Nations. At such time it might be considered that the taxpayer constructively reacquired control over his property. On some later date, when the property was available for or placed in productive use, it might be considered that the taxpayer had then reacquired full and effective control. Whatever the plan, it appears timely for the incorporation in the law and regulations of rules defining dates of recovery. This is very important for the determination of the year of recovery, and also in fixing the definite date for the establishment of fair market value.

Under the present law, the basis of recovered property is the fair market value on the date recovered. In many cases, losses were probably deducted on the basis of depreciated values. Now, however, the recovery must be based on fair market value. This may cause serious inequities in many instances unless the law is revised or limitations placed upon recovered values or the taxes applicable to such recoveries.

The usual tax definition of fair market value may have to be somewhat broadened

in appraising recovered war-loss properties. Fair market value has usually been defined as the price at which a seller and a buyer will trade, both being informed, and neither being under compulsion to act. With respect to recovered properties, it is obvious that such a definition will be extremely difficult of application. It is entirely possible that properties in war-torn countries might temporarily have substantial values due to local conditions, such as inflation or scarcity. However, such values would not represent true values to the taxpayer intending to start in again to operate such properties on a business basis.

The Surplus Property Administration has issued an order defining "fair value" which seems to have a somewhat broader concept than the usual definition of fair market value. Some portions might well be considered here. They are quoted in part as follows:

"The fair value shall be considered to be the maximum price which a well-informed buyer, acting intelligently and voluntarily, would be warranted in paying if he were acquiring the property for long term investment or for continued use with the intention of devoting it to a profit-making purpose which represents the most productive type of use for which the property is suitable.

"The estimate shall take into account only those rights in land, structures, facilities or equipment which would be of use to such a buyer and only to the degree to which they would be of use.

"Neither the original cost to the Government nor the characteristics or readiness to buy of any particular prospective purchaser shall be taken into account."

The thought thus projected is that the fair value of industrial property should be based upon use. This is in contrast to the usual fair market value concept of "trading value." Many reacquired properties may have large trading values at time of recovery, but as industrial operating properties their values may be substantially less. Giving consideration to the chaotic

conditions that may obtain in the recovered areas, it is obvious that many limitations are placed upon the use of property. Disorganized markets and personnel, combined with limited materials, supplies, and repair facilities and service, all operate to limit recovery value based upon use. It was the "use value" that was written off for tax purposes, and it would seem that the appraisal of the reacquired assets should give some consideration to this concept. Industrial property should be viewed with respect to its future operating earning capacity; otherwise, it may be temporarily overvalued, resulting in improperly increased taxes. Section 112 (f) may help in many instances to modify inequitable applications if the present provisions are continued.

Another difficulty in applying the fair market value rule with respect to recoveries is the necessity of first appraising properties in terms of foreign currencies and then converting such amounts into terms of United States dollars. The availability of foreign exchange, combined with its supply, demand, and control, all tend to introduce a difficult factor into the valuation procedure. Rates of exchange and their fluctuations thus become of paramount importance in the appraising of recoveries of foreign properties.

Actually, it would not seem proper to ascribe to recovered property a greater value than that written off. Likewise, it would seem that the adjusted basis for computing the recovery should be the same as that used in computing the loss. If this method were employed, the maximum boundaries of the recoveries would be known, individually, and this would provide an important starting point for appraising reacquired values. If the adjusted loss basis were used, and consideration given to interim depreciation or other reductions involved, including casualty losses during the war, it would seem that

the values so computed would be on a sound basis for inclusion in taxable income. Such a procedure would, of course, completely eliminate the fair market value basis as now provided in the law.

It is recognized that the foregoing suggested procedure with respect to reduction allowances is subject to debate. Consider the case of property creating income from the time it was considered an allowable loss to date of recovery. Such income might be argued to have enhanced the value of the property so that the adjusted loss basis could conceivably be logically increased. In such a situation, depreciation might well be included in computing the increase in value as a result of the period net income. On the other hand, with respect to non-income-producing properties, it can be projected that depreciation or depletion should not be permitted during the period, because of the fact that the properties were not deemed to have been in the possession of the taxpayer. As to this point, it seems more logical to take the position that the value recovered should reflect the adjusted loss basis modified by the factors that decreased its going value during the period.

As presently provided, recoveries are to be considered in the aggregate. This procedure, combined with the fair market value rule, could quite easily result in inequities.

Under the present procedure, recoveries are to be applied as follows:

1. Against the aggregate of war losses not used as tax deductions.
2. Against the aggregate of war losses used as tax deductions for which no tax benefit was received.
3. As taxable excesses after the exclusions noted in the preceding two items have been equalled. Such excesses are in two parts:
 - a. The portion aggregating an amount up to but not in excess

of the total useful tax-benefit deductions.

- b. The portion exceeding the total useful tax-benefit deductions.

As stated previously, the excesses beyond the prior tax-benefit allowances [previous item 3 (b)] are treated as gain from involuntary conversion of property and may be recognized or not under Section 112 (f) of the Code. If recognized, Section 117 (j) applies.

From the foregoing, it is evident that market appreciation in one property might offset the actual loss of another. As a result, the taxpayer would be taxed on a full recovery in the aggregate notwithstanding his actual loss of one of the properties from a continued-use standpoint. This appears illogical.

By grouping recoveries and basing their worth on fair market values in the aggregate, it is obvious that all properties will be included even though some did not contribute to beneficial loss allowances in prior years. Thus, the items that contributed no benefit to the taxpayer in his prior returns will be used to offset actual losses on properties for which beneficial allowances were taken. An individual treatment would eliminate this inequity. Items for which no loss was allowed in prior returns should not be included in the recoveries. In any event, neither directly nor indirectly should the taxpayer be subject to a tax on unrealized appreciation in theoretical value.

The variation of tax rates as between the years of loss and recovery is a very important factor for consideration. It may be that the tax on a recovery is in excess of the tax credit arising from the loss deduction. Under such a situation, a taxpayer would be in the unusual predicament of sustaining a loss—a tax loss—because of a write-off of property in one year and a reinstatement of the same property in a subsequent period. On the

other hand, he might sustain some actual losses from properties destroyed or seized, offset in whole or part by market appreciation of the remainder of the items involved, so that the net recovery in the aggregate represents the same or an increased total value over that of the original loss. In this instance, notwithstanding actual property losses, the aggregate, fair market value methods, would cause a greater write-back value than the total original loss. To provide a further inequity, the tax on the partial but more highly valued recovery, because of increased rates, may be more than the tax benefit on the loss for all the original items as a group.

An inequitable situation is created as a result of the increased effective rates of tax as between the write-off and recovery years. The theory of taxing recoveries should be to give the government an adjustment for excess tax allowance made available to the taxpayer in prior years. It would seem that the correct theory underlying the procedure is purely one of adjustment rather than of increased taxation. At the outset, the purpose of the new provisions in the Revenue Act of 1942 was to give relief to taxpayers holding properties subject to seizure or destruction. They were not intended as a device to give the government an advantage in subsequent years through increased tax rates. But this will be the effect unless some limitations are imposed upon the tax recoveries to the government.

From the foregoing, which includes only certain of the highlights of the problem, it should be evident that the present statutes should be considerably modified with respect to war loss recoveries. The National Foreign Trade Council, Inc., together with various accounting and tax interested groups, has been studying the situation and conveying recommendations and suggestions to the appropriate Con-

gressional committees. Undoubtedly, the Congress will carefully weigh the merits of all the proposals under review and in due course will properly modify the existing law.

In a general way, it would seem that the modifications should comprehend the following:

1. To provide that recoveries be dealt with on an individual basis in so far as possible, eliminating the aggregating rule.
2. To include as recoveries only those items for which deductions were previously included and only to the extent that they were useful taxwise.
3. To use the adjusted loss basis in valuing recoveries, modified by interim depreciation, depletion, casualty, or other reduction or loss allowances.
4. To provide a limitation upon the tax applicable to recoveries so that such tax will bear the same relation to taxable recoveries that it did to useful deductible losses.

5. To establish rules and regulations for fixing recovery dates.

Included in the Code by the Revenue Act of 1945 was Section 600 (b), having to do with the Declared Value Excess-Profits Tax. This section is quoted as follows:

If the net income for the taxable year includes any amount on account of war loss recoveries under Section 127 (c), then, in lieu of the tax computed under subsection (a), the tax shall be computed as follows:

1. An amount computed under subsection (a), after excluding from net income the amount of war loss recoveries, plus
2. one and one-quarter percentum of the amount of the war loss recoveries included in the net income or of such portion of the net income as would be subject to the tax imposed by subsection (a) in the absence of this subsection, whichever is the lesser.

The addition of the foregoing section makes it possible for a taxpayer to avoid unnecessary taxes arising from war loss recoveries that could hardly have been anticipated at the time of filing his capital stock tax return.

PRUDENT INVESTMENT THEORY IN PUBLIC UTILITY RATE MAKING*

CHARLES W. SMITH

I STRONGLY favor the enactment of House Bill 505 subject to two changes which I will point out hereafter.

It is my opinion that successful regulation of public utility rates cannot be accomplished under the fair-value doctrine and that the investment method must be

sanctioned if justice is to be done to the consumer, the utility, and the general public as well. Stated somewhat differently, I believe the fair-value basis of rate making is altogether impracticable and unworkable, that it is basically wrong in its economic concept, that the circumstances which gave birth to the principle have long since ceased to exist, and that if a reasonably good job of public utility rate regulation is to be achieved it is through the investment approach. I would like to give reasons for my views.

* Statement of Charles W. Smith on behalf of Missouri Municipal League, made before the 63rd General Assembly of Missouri, in support of House Bill No. 505, which seeks to establish the investment method of public utility rate regulation in the State of Missouri.

No statement herein should be construed as expressing the views of the Federal Power Commission.

SUPREME COURT DECISIONS

General

No review of rate regulatory procedures in this country would be complete without a brief reference to leading decisions of the Supreme Court of the United States on the subject. Not only did the fair-value doctrine, which plagued regulation for many years, have its real genesis in a decision of that Court, but the decisions of that body have greatly influenced the thinking and pretty well dominated the practices in respect to public utility rate regulation.

The decisions of the Supreme Court in the field of public utility rate making may be grouped into three periods. In other words, there have been three cycles in which sharp trends in the Court's legal philosophy may easily be gleaned. These periods are as follows: from 1877, when the Granger cases were decided, to 1898, when the decision in *Smyth v. Ames* was handed down; from 1898 to about 1930, when the decision in the *United Railways v. West*, was given; from the early 1930's to 1944, when the *Hope Natural Gas Company* case was decided.

First Period

The first period, namely from 1877 to 1898, was one in which the Court at first refused, and then became extremely reluctant, to interfere with the regulation of public utility rates by state legislatures or their constituted authorities. The second period was one in which the fair-value method with its ungainly handmaid, reproduction cost, was in the ascendancy. The third period is characterized by the gradual whittling away by the Court of the fair-value theory which it had previously set up and then the complete abandonment of that theory as a constitutional requirement.

Reviewing these periods, we find that in 1877 the Supreme Court handed down

decisions in six proceedings known collectively as the Granger cases. It will be recalled that the regulation of public utility rates, including railroad rates, received great impetus from the Granger movement.

The leading Granger case was *Munn v. Illinois*.¹ It appears that the State of Illinois by legislative action fixed a maximum price for the storage of grain in elevators. Munn, feeling aggrieved at the statute, initiated court proceedings which ultimately reached the Supreme Court of the United States. That Court sustained the State statute, holding that the regulation of rates was a legislative and not a judicial matter. In this connection the Court made the oft-quoted statement:

"We know that this is a power which may be abused; but that is no argument against its existence. For protection against abuses by legislatures the people must resort to the polls, not to the courts."

I would like to emphasize that in these Granger cases, decided in 1877, the Court held that the fixing of public utility rates, rates of businesses which it characterized as "affected with a public interest" and which were not "juris privati" only, was solely for the legislatures and not for the courts.

As might be expected, utilities were not satisfied with the decisions in the Granger cases. They kept pounding away at the Court and we find the Court gradually turning away from its pronouncement in those cases. In 1886, for instance, the Court, passing upon a railroad rate regulatory statute of the State of Mississippi, said:

"From what has thus been said, it is not to be inferred that the power of limitation (of charges) or regulation is itself without limit. This power to regulate is not a power to destroy, and limitation is not the equivalent of confiscation."²

¹ 94 U.S. 113.

² *Stone, et al.*, composing the *Railroad Commission of Mississippi v. Farmers Loan and Trust Company*, 116 U.S. 307 (1886).

Thus the Court began to shy away from the view that fixing of rates was exclusively within the domain of the legislative branch of the government and, without laying down any standards or tests, proclaimed that the power to regulate was not without limit.

An interesting note is reflected in the dissenting opinions of Mr. Justice Harlan and Mr. Justice Fields. The Mississippi statute was apparently the first regulatory statute requiring tariffs to yield a fair return on the fair value of public utility property. The two dissenting justices took exception to the fair-value principle. It is particularly interesting to note that Mr. Justice Harlan later wrote the decision in *Smyth v. Ames*,³ which gave birth to the fair-value doctrine as a constitutional principle.

From 1887 to 1898 the Court passed upon about thirteen public utility rate cases, four of which it remanded, two because procedural due process was not observed and two quite evidently because the prescribed rates did not provide any profit at all to the railroad company. During this period the Court reiterated its statement in the *Stone* case that the power to regulate was not without limit, but it carefully refrained from stating the legal principles which governed the limitation.

Smyth v. Ames

It is with this background that we approach the case *Smyth v. Ames*, which stated the controlling legal principle of public utility rate making in this country for thirty years or more.

In order to understand the decision in that case it is necessary to review briefly a little of the history of the Union Pacific Railroad, which was involved in the proceeding. The Union Pacific Railroad,

chartered by Congress, was very badly manipulated in the financial sense. Through the instrumentality of the Credit-Mobilier company, affiliated construction company, the capital structure of the Union Pacific was greatly inflated. It was said that of the \$109,000,000 capital structure of the railroad company, \$70,000,000 represented "water." The Credit-Mobilier scandal rocked the nation in the 1870's, resulting in at least two investigations by Congress. It seems that two brothers, i.e., Oliver and Oakes Ames, chiefly engineered the watering of the capital structure of the railroad company.

In 1893 the State of Nebraska passed a law fixing railroad rates. One Oliver Ames—I believe he was the son of Oakes Ames—complained because the rates would not yield a return on his stock which, of course, was heavily watered. When the case reached the courts, immediately the question arose as to the proper basis for determining just and reasonable rates. It was clear to the courts that the capital structure of the company was meaningless. Mr. Justice Brewer, sitting in the Circuit Court, District of Nebraska,⁴ pointed out the difficulties confronting the Court and then noted that the Government could take possession of the transportation and discharge its duties to the public, adding:

"Certainly that would be the simplest,—and for the courts at least—the easiest solution of the problem which now impends. . . ."

The case was argued in the Supreme Court of the United States on March 4 and 5, 1896; reargued on April 5, 6 and 7, 1897; and decided on March 7, 1898. I mention these dates merely to point to the struggle the Court was having within itself in formulating legal principles relating to a major economic problem.

The Court came to the conclusion that the Constitution required the fixing of

³ 169 U.S. 466 (1898).

⁴ *Ames v. Union Pacific Ry. Co.*, 64 Fed. Rep. 165.

rates so as to yield a fair return on the fair value of the property used and useful in the public service. The Court went further and mentioned the elements which should be taken into consideration in arriving at fair value. These were: (1) original cost of construction, (2) amount expended in permanent improvements, (3) amount and market value of stocks and bonds outstanding, (4) the present as compared with the original cost of construction, (5) the probable earning capacity under the particular rates prescribed by statute. In succeeding years only two of the foregoing elements received recognition by the Court, namely, original cost of construction and the present (reproduction) cost as compared with the original cost of construction. Inasmuch as original cost of construction and present cost are not reconcilable, one of the elements was destined to predominate. This has been pretty much the experience in practice. By degrees, emphasis became embedded in the present-cost concept. The present-cost concept involved reproduction-cost estimates, the greatest vexation ever to plague the regulation of public utility rates.

Second Period

From 1898 when *Smyth v. Ames* was decided, to the early 1930's, the fair value doctrine was the controlling legal principle as to rate base determinations. In 1899⁵ and in 1903,⁶ cost was rejected and present fair value emphasized. In 1909, the Court said,

"If the property, which legally enters into consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase."⁷

⁵ *San Diego Land and Town Company v. National City*, 174 U.S. 739.

⁶ *San Diego Land and Town Company v. Jasper*, 189 U.S. 439.

⁷ *Wilcox v. Consolidated Gas Company*, 212 U.S. 19.

In 1922,⁸ the court affirmed a decision of the District Court for the Southern District of New York, in which it was said that as soon as it was apparent that prices were not transitory, reproduction cost on the basis of present levels should become the basis for fixing rates.

By 1923, however, certain members of the Court had concluded that the fair-value doctrine was not a part of the Constitution of the United States. In that year a sharp division occurred within the Court. This division found expression in a decision involving the Southwestern Bell Telephone Company.⁹

The Public Service Commission of Missouri issued an order requiring the Southwestern Bell Telephone Company to reduce its rates. The order was affirmed by the State Court.¹⁰ The majority of the United States Supreme Court, in an opinion by Mr. Justice McReynolds, held firmly to the fair-value principle. Mr. Justice Brandeis used the occasion to write his famous opinion favoring the prudent-investment method. He was joined by Mr. Justice Holmes. Thereafter, the fair-value doctrine was constantly under attack by certain members of the Court who steadfastly championed the investment basis.

The apex of the fair-value theory was reached in the *McCardle* case,¹¹ decided in 1926. In that proceeding, the majority of the Court reaffirmed the fair-value principle and even required a prognostication as to future price levels. It required an allowance for an intangible element known vaguely as "going concern value." In addition, the Court approved the deduction from the estimated value as new

⁸ *Newton v. Consolidated Gas Company*, 258, U.S. 165.

⁹ *Southwestern Bell Telephone Company v. Public Service Commission of Missouri*, 262 U.S. 276.

¹⁰ *State ex rel Southwestern Bell Telephone Co. v. Public Service Commission et al.*, 233 S.W. 425 (1921).

¹¹ *McCardle et al., v. Indianapolis Water Company*, 272 U.S. 400.

property, of the small amount of depreciation known as "observed" depreciation. In other words, customers were given credit not for the depreciation accrued in the accounts, not for depreciation which had been paid for by them, but only for that depreciation which was ascertainable by inspection of the properties. I might point out at this time that the inspection principle resulted in the observation of very little depreciation by the experts retained by public utility companies.

Under the *McCardle* decision, in my opinion, effective regulation of public utility rates was doomed. Commissions, I believe, generally recognized this fact. Then there began an era in which Commissions did lip-service to the law of the land as laid down in the *McCardle* case, while endeavoring by every conceivable means to reach a semblance of just and reasonable results.

As might be expected, Mr. Justice Brandeis and Mr. Justice Stone dissented vigorously from the majority opinion in the *McCardle* case; Mr. Justice Holmes concurred only in the result.

The *St. Louis & O'Fallon Railroad* case,¹² involving a utility operating in Missouri, was decided by the Court in 1929. That case arose under the Interstate Commerce Act. The majority of the court held that the words "law of the land" in the statute required consideration of reproduction-cost estimates, which it held the Commission had failed to consider. A vigorous disagreement was registered by Mr. Justice Brandeis, Mr. Justice Stone, and Mr. Justice Holmes.

Thus after the decision of *Smyth v. Ames* in 1898, the Court stressed the fair-value theory, and emphasized reproduction-cost estimates, but beginning in 1923 a breach occurred. At that time, and thereafter, certain members of the court

attacked the fair-value doctrine and supported the investment method. In general, it may be said that the period from 1898 to the early 1930's was one in which the fair-value doctrine ran its course as a constitutional concept.

Third Period

The third period in the evolution of constitutional principles of public utility rate making is the period from the early 1930's to the present time. In 1933 the Court was called upon to decide a rate case involving the *Los Angeles Gas and Electric Corporation*.¹³ The appeal was from a decision of the California Railroad Commission which, consistent with its long established practice, had determined the rate base of the company in accordance with the investment principle. The California Railroad Commission clearly did not observe the precepts of the *McCardle* case decided in the preceding decade. Nevertheless, the Court sustained the order of the Commission. It is true that in doing so the Court cited its past decisions and tried to square its conclusions therewith. The fact remains, however, that the rate base was determined according to the investment standard and the Court did not find it unreasonable.

The next year, 1934, the Court affirmed an order of the Public Utility Commission of Pennsylvania, which likewise determined a rate base according to the investment principle.¹⁴ Here, too, the Court by noticing the great change in price levels, etc., attempted to square its findings with previous decisions, but as a matter of fact the Commission used the investment principle and its result again was found not unreasonable.

The famous case of *Lindheimer et al. v. Illinois Bell Telephone Company*,¹⁵ was

¹³ *Los Angeles Gas & Electric Corp. v. Railroad Commission of California et al.*, 289, U.S. 287.

¹⁴ *Clark's Ferry Bridge Company v. Public Service Commission of Pennsylvania*, 291 U.S. 227.

¹⁵ 292 U.S. 151.

¹² *St. Louis & O'Fallon Railway Company, et al., v. United States, et al.* 279 U.S. 461.

also decided in 1934. That case had been in litigation for many years, having previously been remanded by the Supreme Court.¹⁶ The Illinois Commerce Commission had determined the rate base according to the investment principle. The court affirmed the result, saying that the calculations of the company were at war with realities and were of no value in determining the adequacy of rates.

A very interesting case was decided in 1938.¹⁷ The California Railroad Commission had issued an order requiring the Pacific Gas and Electric Company to reduce its gas rates. The lower Federal court enjoined the Commission because it had not considered reproduction-cost testimony. The lower court was sustained by an equally divided Supreme Court. The Supreme Court, however, granted a motion for reargument, and in the subsequent proceedings, the Federal Power Commission, the National Association of Railroad and Utilities Commissioners, and others, filed *amicus curiae* briefs. The Federal Power Commission took the bold stand that the investment method satisfied constitutional requirements. The court held that the California Railroad Commission had observed procedural due process, and, further, that it was not a denial of due process for the Commission to treat estimates of reproduction cost as without probative value. The Court remanded the case with instructions, whereupon the lower court reversed itself and large refunds were made to ultimate consumers.

There is an interesting sidelight in the foregoing case. The late Honorable Clyde L. Seavey, one of the truly great figures in the history of public utility regulation in this country, was a member of the California Railroad Commission at the time it decided the Pacific Gas and Electric

Company case. Mr. Seavey was a member of the Federal Power Commission when the latter organization filed its *amicus* brief. Mr. Seavey, as a member both of the California Railroad Commission and of the Federal Power Commission had no illusions about the rate base—he felt that the fair-value principle was wholly unworkable and the only recourse was to the investment standard.

It would thus appear that in about 1940 the stage was set for a new test on the prudent-investment doctrine. That test was not long in coming. In that year the Federal Power Commission issued an interim order requiring the Natural Gas Pipeline Company of America to reduce its rates \$3,750,000 annually. For the purposes of the interim order, the Commission acted upon evidence introduced by the company—reproduction-cost evidence. The Commission accordingly found a fair-value rate base. In the Supreme Court, however, the Commission argued that it should be permitted to employ an investment rate base, pointing out that the order under review was interim in its nature and that there would be further proceedings in the case. The Court sustained the Commission's reduction in rates, and in the course of its unanimous opinion said:

"The Constitution does not bind the rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom its legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances."¹⁸

In a concurring opinion by Mr. Justice Black, in which Mr. Justice Douglas and Mr. Justice Murphy joined, it was stated that the Commission was free under the decision of the Court to use the investment principle in determining the rate base. It

¹⁶ *Smith v. Illinois Bell Telephone Company*, 282 U.S. 133.

¹⁷ *Railroad Commission of California et al. v. Pacific Gas and Electric Co.*, 302 U.S. 388.

¹⁸ *Federal Power Commission et al. v. Natural Gas Pipeline Co., et al.*, 315 U.S. 575 (1942).

is of interest to note that conferences were then held with the company, a prudent-investment rate base worked out, and a further reduction of \$2,750,000 obtained without the necessity of any further formal proceeding.

Finally in 1944, the Court struck a death blow to the fair-value theory. The decision was in *Federal Power Commission v. Hope Natural Gas Company*.¹⁹ The Power Commission ordered the Hope Company to make a substantial rate reduction. In arriving at its conclusion, it had employed an investment rate base, computed substantially in accordance with the methods set forth in House Bill No. 505. The question of whether an investment rate base satisfied Constitutional requirements was squarely before the Court. The Court sustained the Commission's order. In the course of its opinion, it said:

"... Rates which enable the company to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risks assumed certainly cannot be condemned as invalid, even though they might produce only a meager return of the 'fair value' rate base."

The *Hope* case effectively overruled *Smyth v. Ames* and sounded the death-knell of the fair-value doctrine. Whatever slight vestige may have remained was disposed of in *Panhandle Eastern Pipe Line Company v. Federal Power Commission*—U. S.—decided April 2, 1945. In that case, the Commission refused to receive in the record any evidence bearing upon reproduction cost of the company's properties. On affirmance by the Circuit Court of Appeals the company applied for a writ of certiorari from the Supreme Court. That request was granted in part, but the Court refused to review the Commission's action in holding that reproduction-cost testimony was not admissible.

It is now abundantly clear that regula-

tory agencies are free within the scope of their statutory authority to fix just and reasonable public utility rates without regard to the fair-value formula.

Thus the Supreme Court has run the gamut in search of Constitutional principles controlling the fixing of public utility rates. While it has not returned to its starting point, the *Munn* case, nevertheless it appears to have completely retraced its steps from its excursion into the metaphysical field of fair value.

THE CASE AGAINST FAIR VALUE

The case against fair value is open and shut. It is complete. The fair-value theory has run its course. It has been weighed in the balance and has been found wanting in all major respects.

It is generally recognized today that the fair-value theory is wrong in both its legal and its economic connotations.

Eminent Domain Analogy

The legal concept was linked to the principle of eminent domain. It was argued that the fixing of rates below reasonable standards amounts to the taking of property. But the argument proves too much. Any reduction in rates and earnings may *ipso facto* decrease the value of public utility property. Therefore, under the eminent-domain principle there could be no reduction in rates, regardless of the amount, for confiscation would ensue. This is so, because under the principles of eminent domain, the owner of property is entitled to have as much after the taking as before. Furthermore, there is no actual taking of property by exercise of the rate-making process. If property were taken all excess earnings thereafter would inure to the benefit of consumers and not, as is the practice, to the benefit of the utility.

Actually, the regulation of public utility rates is merely one species of price-fixing,

¹⁹ 320 U.S. 591.

of which we have a large number of examples today. The eminent-domain analogy is now thoroughly discredited.

The fair-value doctrine as applied to public utilities presumes that value can be determined without consideration of rates. The United States Supreme Court in the *Hope* case squashed this argument when it pointed out that value is an end product and not the beginning. The value of a utility's business depends upon its rates which, in turn, affect its earnings, and not vice versa.

Reproduction Cost

The chief criticism of the fair-value doctrine, however, goes to the invention of a scheme designed to determine value without consideration of earnings. This scheme involves reproduction-cost estimates, probably the greatest hoax ever perpetrated on the American consuming public. The reproduction-cost process of estimating value does not yield sensible results but instead produces figures which are fantastic and ridiculous. An insistence upon that process will inevitably defeat sound and practical regulation.

In the reproduction-cost process every item of property is inventoried. In the case of a telephone company, this frequently means one or more "experts" travel every roadside in the state listing the property of the company in detail. For instance, every pole is listed, not only a pole as such but the size thereof, the nature of the wood, whether treated or untreated, the number of crossarms, insulators, guy wires, pole steps, etc. This process is repeated for every item of property owned by the company. The units of property are then assembled and the process of price-estimating begins. Prices are estimated for materials and supplies, for labor of all kinds, and many other speculations such as to the efficiency of labor are indulged in.

The fact that no one would reproduce

the property in its present form is ignored. In other words, a Model T Ford is reproduced, in theory, as a Model T Ford. A 1910 generating plant is theoretically reproduced as a 1910 generating plant. This may mean that the estimated reproduction cost is more than twice the original cost although the old generating station may require three pounds of coal to produce a kilowatt-hour of electricity whereas a modern generating station uses less than one pound of coal.

Of course, when one considers the purchase of business property, except property involved in a monopoly, one first considers what it would cost to build a substitute plant that would accomplish the same purpose. If, for instance, it would cost \$1,000,000 to reproduce a certain old business plant, but only \$500,000 to build a different, but a better plant, obviously no one would pay as much as \$500,000 for the old plant. This fact is wholly ignored in the reproduction-cost process except as to allowances made in determining depreciation. In other words, the thing that is theoretically reproduced is the existing plant as is.

The process is so fantastic that independent engineers working separately come up with widely differing answers. A few years ago I made a study of all the valuations reported in Public Utility Reports for the years 1928 to 1942 for which comparative information was available. The weighted average variation in estimates of regulatory Commissions and utilities was 43 per cent. In other words, valuations for the same properties on the average differed by 43 per cent. Some of the valuations differed as much as 100 per cent. Obviously such wide differences vitiate the process.

The late Harlan Fiske Stone, then Chief Justice of the Supreme Court of the United States pointed out in a recent dissenting opinion in the *West* case the widely differ-

ing valuations for properties of the New York Telephone Company.²⁰ He showed that the lowest valuation was \$366,916,000, whereas the highest was \$615,000,000. These figures reflect a difference of 67 per cent. This, of course, is the difference between night and day; between right and wrong; between just and reasonable rates and unjust and unreasonable rates. The New York Telephone valuations, I submit, were not unusual but rather typical.

It requires a very long time to make a reproduction-cost estimate and to try the fair-value issue before commissions and courts. It is estimated that probably 300 man-years were required by the company and the Wisconsin Commission to make a valuation of the Wisconsin Telephone Company. The Ohio Bell Telephone Company case was in process fourteen years, the New York Telephone case a like period of time, and the Illinois Bell Telephone case twelve years.

The process is tremendously expensive, so expensive that I doubt whether there are more than two or three commissions in the entire United States which have a staff of sufficient size to undertake a large valuation and to complete it within anything like a reasonable time. In this connection it is estimated that the valuation of the New York Telephone Company cost the company \$5,000,000.

In addition, the valuation is soon outmoded. There are of record cases in which valuations were outmoded, because of changes in price levels, before a final decision was handed down in the proceeding.

The fair-value theory involving reproduction-cost estimates, is so unworkable, so futile, that I do not think it has any real champions outside the public utility industry. In this connection I would like to quote from a few of the authorities col-

lected in the Supplement to the Brief of the Federal Power Commission in the *Hope Natural Gas Company* case.

Views of Leading Authorities

Dr. James C. Bonbright, Professor of Finance at Columbia University and certainly one of the very best known public utility economists in this country, has pointed out that economists, regardless of what they think is a proper method of regulating public utility rates, are unanimous in their condemnation of the fair-value approach. He said:

"The sharp disagreement among American economists as to what constitutes a proper rate base makes all the more striking their apparently unanimous agreement that, whatever this base should be, the one measure which is outlawed is the very measure which the Supreme Court has held to be controlling—namely, the 'value' of the properties as of the time when the rates are under consideration. This position is not confined to those writers who support the 'prudent investment' or the 'original-cost' basis of regulation and whose views are therefore most obviously opposed to the accepted legal doctrine. It is accepted no less uncompromisingly by such writers as Brown (Professor Harry Gunnison Brown) and Graham (Professor Willard J. Graham), whose defense of the replacement cost theory will be noted below, and by the late President Hadley, who objected to any rate control which makes the fairness of the rates depend upon the adequacy of the corporate earnings. Hadley, indeed, once remarked that he could recall but one economist who agreed with the courts in accepting 'value' as a measure of the rate base, and he added that this economist was dead. (19 *Am. Econ. Rev. Supp.* 173 March, 1928.)"

Another writer calls the doctrine a gigantic illusion:

"The whole doctrine of *Smyth v. Ames* rests upon a gigantic illusion. The fact which for twenty years the court has been vainly trying to find does not exist. 'Fair value' must be shelved among the great juristic myths of history, with the Law of Nature and the Social Contract. As a practical concept, from which practical conclusions can be drawn, it is valueless. (Henderson, "Railway Valuation and the courts," 33 *Harv. L. Rev.* 1031, 1051.)"

²⁰ *West v. Chesapeake and Potomac Telephone Company*, 295 U.S. 662.

Professor Irston Barnes of Yale is equally critical of the principle:

"Judged in terms of the criteria of effective regulation, the score for fair-value is not impressive. By focusing attention on the corporation, the effects of rate control on investors are ignored or relegated to a position of secondary importance. Unearned income and undeserved losses may be visited upon consumers and investors. The present-fair-value method has not been an equitable method of regulation under the circumstances that have prevailed in the past and does not promise greater fairness for the future.

"On the theoretical level, the fair-value program of regulation encounters unanswerable objections. The legal theory is accurately characterized as vague and inconsistent. The eminent-domain fallacy is found to have infected the whole body of regulatory thought with respect to the fair-value standard. Finally, the nature of the inquiry and the character of the evidence presented in the search for fair value are not calculated to afford a scientific or satisfactory method of rate control." (Barnes, *The Economics of Public Utility Regulation* (1942), pp. 562-3.)

Professor Robert L. Hale, of Columbia University, has observed that the fair value "serves merely to divert the time, attention and funds of regulating bodies out of the proper channels into one of the most unreal fields of speculation in which the minds of metaphysicians have disported themselves since the days of medieval schoolmen." ("The 'Physical Value' Fallacy in Rate Cases," 30 *Yale L. J.* 710 1921.)

The "irrationality" and "unworkability" of reproduction-cost estimates has been thus described:

"For as soon as we begin to deal with reproduction cost we desert the solid ground of fact and enter the realm of guesswork and partisan interpretation. The determination of the cost of reproducing a given property for the purpose of fixing a rate base has come to be one of the most involved and expensive tasks in the utility business. It requires a battery of engineers and accountants working months at a time and coming to conclusions with which no other like group working independently would agree."

"... if reproduction costs are to be figured on

the cost of the identical plant, a plant that would not be reproduced under any modern conditions, equipped with machinery that could not be procured in any market, and for which price lists are no longer available, as has proved to be the case, we find ourselves in an unreal world, where the imagination and ingenuity of acquisitive spirits are given a free and untrammelled rein. The irrationality and the unworkability of this legal fiction of fair value, embodying the accepted theory of reproduction cost new, becomes the more apparent the more one familiarizes himself with the processes that have been devised in its name." (Mosher & Crawford, *Public Utility Regulation*, pp. 192-3, 214.)

One commentator in analyzing the *McCardle v. Indianapolis Water Company* case made the following pithy observation:

"In addition to the expert guessing contest involved in estimating reproduction cost, according to present or past prices, the opinion also adds an additional gambling factor in inquiring 'an honest and intelligent forecast as to probable price and wage levels during a reasonable period in the immediate future.' For at least one hundred years (and probably for several thousand years) commerce has been offering its greatest prizes to men who could make honest and intelligent forecasts of future prices. Today the management of any large business would pour wealth into the lap of the inspired genius who could make such forecasts. The question is presented as to whether, when such forecasts are impossible (as they are most of the time), public utility commissions should make any effort to regulate public utility rates. Relying upon past prices alone, it would become evident in practically every case, by the time the case reached the Supreme Court, that there had not been an 'honest and intelligent forecast' of future prices. The illusion... that a reliable forecast of future prices can be made is on a par with the illusion which also radiates from the opinion, that there is such a thing as a 'relatively permanent price level'." (Richberg, "Value—By Judicial Fiat" (1927), 40 *Harv. L. Rev.* 567, 572.)

The National Association of Railroad and Utilities Commissioners, an association of public service commissions, through its Committee on Progress in Public Utility Regulation, in 1941, had the following to say with respect to the fair-

value doctrine and the delusive element of reproduction cost:

"For more than a generation now, utility commissions have struggled with a legalistic scheme of rate regulation based upon various types of valuation procedure. As these processes have usually been applied, they have done violence to various laws of economics. Aside from the utility field, there is virtually no other segment of American business life in which the price structure is established upon the basis of certain valuation theses. Other price structures are competitive, but competitive criteria are lacking in the utility field. . . . The valuation procedure, especially when based on unrealistic studies of reproduction costs, fails signally to achieve this result. Because of this fact, the entire procedure has been criticized more than it has been defended." (National Association of Railroad and Utilities Commissioners, 53rd Annual Proceedings (1941) pp. 369-370.)

Summarizing, the foregoing authorities collectively hold that the fair-value scheme with its accessory, reproduction cost, is an "illusion," a "juristic myth" which is "valueless" and "not equitable"; that it is "vague and inconsistent," "irrational and unworkable"; that it degenerates into "guessing contests" which involve excursions into "unreal fields of speculation" and that it "does violence to the laws of economics."

The Practical Test

I could go on quoting from impartial authorities for a long time, but suffice it to say that objective observers are almost unanimous in their condemnation of the fair-value theory.

But what about the practical test? Has the fair-value theory worked at all in practice?

The fair-value basis of determining the rate base has fallen down completely in practice. All of us who have long been associated with the regulation of public utilities know this statement to be true. I have given some thought as to how to prove this conclusively to this Committee. I am sure I have facts which beyond any

argument prove that the fair-value basis does not function in practice.

Of course, the large cities of this country are served by large electric utilities. That is where a large part of the business of electric utilities is carried on. Accordingly, that is where we would naturally expect regulation to function at its best.

In order to test the working of the fair-value principle, I have investigated the fair-value determinations in respect to the private electric utilities serving the ten largest cities in the United States. Los Angeles is excluded from this study because it has a municipal system.

My study covers a period of twenty years and involves ten electric utilities. In other words, my study covers two hundred utility years. I ascertained the number of fair-value determinations made in these two hundred utility years. The number is exactly two.²¹ In other words, in the last twenty years there have been but two fair-value determinations of the properties of the private electric utilities serving the ten largest cities in the United States.²² This is not to say rate reductions have not been made in those cities, for the contrary is true. The reductions have been made in spite of the fair-value principle and not by virtue thereof.

I suggest that only two conclusions can possibly be drawn for this statement of facts:

- (1) That as a group regulatory commissions are incompetent, or
- (2) That the fair-value principle cannot successfully be applied.

The latter is clearly the case.

It is no wonder that Professors Freidrich and Mason of the Harvard University Graduate School of Business Administra-

²¹ Union Electric Company, 17 PUR (N.S.) 337
Commonwealth Edison Company, 15 PUR (N.S.) 104.

²² There have been a few cases where rate bases were determined by starting with old values and adding additions at cost, but these determinations are not fair value determinations as such.

tion concluded that the regulation of public utility rates was a failure.²³

Accordingly, without hesitation, I say to you gentlemen that no regulatory commission ought to be condemned to serve under a standard which has nothing to support it on the theoretical side and which on the practical side, after a long and fair trial, has been found to be completely unworkable.

THE CASE FOR THE INVESTMENT PERIOD

The investment method of determining the rate base is practical and simple; it does not involve the long-drawn-out, expensive, and complicated procedures of the fair-value scheme and, at the same time, it is equitable to all concerned. By the investment method I mean the actual investment of the utility in property used and useful in serving the public less accrued depreciation and plus a reasonable allowance for working capital.²⁴

The investment method is practical because the investment can be determined rather readily from the books of account which utilities are required to keep. With reasonable supervision over the accounts, the investment ought to be obtainable within a very short space of time. None of the guesswork associated with reproduction-cost estimates is called into play. The differences between witnesses are easily isolated and, generally speaking, can be resolved by documentary evidence. Ordinarily, utility expenditures, other than interest and other nonoperating items, are chargeable to operating expenses or to plant; the utility should get proper allowance, therefore, in one place or the other. The investment method achieves this consistency.

The investment method is the business-

like method. When a businessman goes to a bank to borrow money he produces balance sheets and income statements as the basis for his application. He does not take a reproduction-cost estimate to the bank and say "Lend me money on this." So, with the investment standard, the pertinent figures are derived from books and records which underlie the balance sheet and the income statement. It is essentially the method which businessmen use and understand.

The method is fair and equitable to consumers and to utilities. It is fair to consumers because justice requires that they compensate the utility for the investment made to serve them. The utility, on the other hand, is entitled to compensation for the use of the investment. It is not entitled to speculative return but only to a just rent for the capital. Consumers must pay for the capital devoted to their service. The fairest means of determining this compensation is by applying a fair rate of return to the capital so employed. This is exactly how the investment standard works in practice.

Utilities are usually financed through the issuance of bonds, preferred stocks, and common stocks. The bonds bear a fixed rate of interest which must be paid regardless of earnings, and preferred stocks normally bear a fixed dividend which must be paid before common shares participate in the profits. The interest on bonds, and the dividends on preferred stocks, may be looked upon as fixed obligations. They do not fluctuate with the rise and fall in the general level of prices. In other words, bondholders and preferred stockholders do not benefit one cent by an increase in the price level, nor do they suffer any detriment by a decrease in the price level. Hence, under the fair-value theory any increase in value inures to the benefit of the common stockholders and any decrease in value results to their detriment.

²³ *Public Policy* (1940), p. 132.

²⁴ When the sinking fund method of computing depreciation expense is employed, an undepreciated rate base is used.

Accordingly utilities finance in a manner consistent with the investment standard. The contracts with bondholders run for long periods of time—twenty to forty years. The contracts with preferred stockholders may go to the life of the corporation, subject to the right on the part of the utility to terminate the contract upon the payment of a penalty premium. These long-term contracts are entered into on a large scale in spite of the knowledge that prices constantly change.

Bonds and other long term debt comprise about 47 per cent of total electric utility capital, preferred stocks about 15 per cent, and common stocks the balance. It may be asked why it is necessary to base rates on "fair value" when so much of the capital, 62 per cent, is so intimately related to the investment principle. The answer is that it is not.

I would like to reiterate that, except for great declines in values which may affect bondholders and preferred stockholders adversely, the so-called fair-value principle has nothing to do with the raising of the bulk of public utility capital. All students of the problem know that the amount of earnings is the important thing. The investment basis is, therefore, well designed to preserve the financial integrity of the utility. Under it the rate base is determined according to the actual investment in property used and useful in public service and a determination is made as to the rates necessary to support that investment.

Under the investment principle the rate of return takes into consideration the fixed obligations—interest on bonds and dividends on preferred stock—and also the amount of earnings necessary to protect the common stock. The rate of return is such as to keep the company whole, assuming, of course, that capital is not inflated and that the industry is economically sound. The return necessary to at-

tract capital to the enterprise can be calculated. Regulation thereby comes down to the level of realities.

It should be emphasized that the investment method would permit the determining of rates in such a manner as to attract capital. The prime factor in the marketability of public utility securities is the relationship of earnings to the particular class of capital under consideration. Electric utility bonds sell for 2.6 per cent, not because the fair value is estimated to be so high, but because the earnings coverage is so satisfactory. These relationships, and the effect thereon of rate adjustments, can be measured with relative exactness under the investment principle. In other words, only the investment principle permits a reasonable determination of the requirements of capital.

Under the fair-value principle, the rate base is supposed to fluctuate with changes in price levels; the investment rate base, on the other hand, is stable. The stable rate base is an advantage to the security holder because it permits him to make a reasonable determination of the quality of his security.

Public Service Commissions rather generally have the power to pass upon public utility security issues. In approving public utility securities a Commission gives consideration to the investment and not to hypothetical estimates of values.

The rate problem, in essence, is one of determining just and reasonable prices. Perhaps at some time in the future someone may devise a better means of determining just and reasonable rates than by the use of a rate base, but so long as a rate base must be used, then I believe the investment base is by far the best standard to employ.

I previously referred to the inflation in the Union Pacific Railroad Company as presenting one of the difficulties met with by the courts in deciding the case *Smyth v.*

Ames. In the early days of regulation, the determination of actual investment was probably a difficult undertaking because of the lack of trained public service commission accountants. That condition no longer prevails.

Commissions now have competent accountants. In 1936 and 1937 public service commissions generally adopted a new system of accounts for electric utilities. This new system of accounts was designed to earmark inflation in a special account so that it might be eliminated. The staff of the Federal Power Commission in collaboration with the staffs of the State Commissions have obtained many adjustments in the utility accounts pursuant to that system. The Federal Power Commission since 1940 has issued orders, most of which are in agreement with orders of State Commissions, approving or directing accounting adjustments totaling \$880,000,000. Staff reports in progress reflect about \$300,000,000 of additional adjustments.

The Public Service Commission of Missouri and the Federal Power Commission have collaborated in straightening out accounts of six electric utilities. They are presently engaged in a joint study of the accounts of Union Electric Company of Missouri. In a year or two the actual investment of most of the large electric utilities in this country will be known and will be a matter of record. Accordingly the conditions confronting the courts when *Smyth v. Ames* was decided no longer hold.

Many able authorities have championed the investment method of determining the rate base. I quote below from some of those included in the supplement to the Federal Power Commission's brief in the *Hope Natural Gas Company* case.

Of course, the late Mr. Justice Brandeis was one of the leading advocates of the investment basis for the fixing of public utility rates. In support of that basis Mr.

Justice Brandeis stated in the *Southwestern Bell Telephone* case, 262, U. S. 276, 289:

"The adoption of the amount prudently invested as the rate base and the amount of the capital charge as the measure of the rate of return would give definiteness to these two factors involved in rate controversies which are now shifting and treacherous, and which render the proceedings peculiarly burdensome and largely futile. Such measures offer a basis for decision which is certain and stable. The rate base would be ascertained as a fact, not determined as matter of opinion. It would not fluctuate with the market price of labor, or materials, or money. It would not change with hard times or shifting populations. It would not be distorted by the fickle and varying judgments of appraisers, commissions, or courts. It would when once made in respect to any utility, be fixed, for all time, subject only to increases to represent additions to plant, after allowance for the depreciation included in the annual operating charges. The wild uncertainties of the present method of fixing the rate base under the so-called rule of *Smyth v. Ames* would be avoided; and likewise the fluctuations which introduce into the enterprise unnecessary elements of speculation, create useless expense, and impose upon the public a heavy, unnecessary burden."

The advantage of a stable rate base, which is characteristic of the investment standard, are reflected by the following quotation from a Committee of the Investment Bankers Association:

"So nearly as possible, a stabilized basis of property valuation should be developed. This is easier said than done, but candid effort can surely remove some of the chief causes of instabilities that are dependent on variations in commodity price levels and in varying rates of depreciation and obsolescence. Present deflation of values but emphasizes the disturbing effect of too fluctuating bases of value. To arrive at what is fair will call for mutual concessions—from public regulatory bodies, of preconceived notions that often have reflected political expediency rather than economic and basic considerations; from private ownership, of other preconceived ideas of the rights of private property in a regulated business imbued with a public responsibility and trust. Preconceived notions need to be reappraised or set aside, in favor of the answer to be found only after an

unbiased solution that will more nearly represent public and private rights than any yet applied. This Committee cannot but believe that a sound economic solution will sooner or later receive judicial sanction." (*Commercial and Financial Chronicle*, November 21, 1931, Vol. 133, pt. 2, p. 3389.)

Many leading public utility accountants favor the investment method, as is shown by the following typical opinions:

"Since public utilities render a service which must be supplied continuously they should be regulated upon a theory that they are or will become going concerns. They are secured in their market position by means of governmental grants which are either expressly monopolistic or tend to become such under the pressure of uneconomic competition. They have voluntarily invested their capital upon the implied assurance that they will be permitted to earn reasonable returns. Under modern conditions of regulation the investment of capital may even be compelled by governmental authorities or it is at least invested subject to governmental authorization and approval. Under these conditions of regulated monopoly, the true economic standard for determining the rate-base is the investment standard." (Glaeser, *Outlines of Public Utility Economics* (1931), p. 505.)

"Our conclusion is that original cost (unimpaired investment or prudent investment) is the most satisfactory basis of valuation." (Jones, Eliot, and Bigham, *Principles of Public Utilities* (1931), pp. 239-240.)

"The most widely accepted alternative to reproduction costs now is the prudent investment method of fixing fair value. . . .

"A stable rate base is a condition *sine qua non* of a satisfactory scheme of regulation. Prudent investment meets this condition, as does no other rate base that has been proposed." (Mosher and Crawford, *Public Utility Regulation* (1933), pp. 214, 216.)

"It is to be hoped that the Supreme Court will uphold the prudent investment principle and will set aside the concept of 'present value' which for nearly 40 years has done much to render rate regulation ineffective. Prudent investment is a fixed, non-fluctuating rate base, fair to all parties concerned. It can readily be ascertained and can be kept current merely through accounting procedure. Adjustments because of changes in price levels can be made, as they should be, in the rate of return." (Wilson, Herring and Eutsler, *Public Utility Regulation* (1938), p. 152.)

"The early obstacles to the adoption of a cost or investment standard of rate control have now been largely removed. With the extensive development of accounting control since 1908 and the more recent enlargement of commission control over security issues, the adoption of the prudent-investment program would be quite practicable; the essential data are all available. In recognition of the present practicability of the prudent-investment standard, there are many decisions of the state commissions which indicate their preference for this simpler and more direct rate-making procedure. Even in those states where the adoption of the prudent-investment method of rate control is not immediately feasible, there is every reason to believe that the adoption of this standard would lead shortly to the development of the data required to make regulation on this basis truly effective." (Barnes, *The Economics of Public Utility Regulation* (1942), p. 574.)

"The need to simplify rate-making procedure, particularly in the determination of fair value, must not lead to a neglect of other equally important considerations in choosing a new method of rate making. No rate-making plan can be satisfactory in the long run unless it protects the legitimate interest of the community; the interest of the investors in utility securities and of the consumers of utility services. It is necessary, therefore, that the new rate-making plan should assure to utility companies a net income that will attract the capital required for continued expansion of the utility industries. Rate making under the new plan should also be sufficiently responsive to changing economic conditions to prevent an undesirable divergence of utility rates from the costs of producing utility services.

"The prudent investment method of valuation meets these tests in every respect. (Bernstein, *Public Utility Rate Making and the Price Level*, (1937), p. 129.)

Massachusetts has employed the investment rate base for many years. In connection therewith a former Chairman of the Public Utilities Commission of that State has said:

"Our concern in Massachusetts now is that we may be forced to abandon a system of regulation that, on the whole, has worked well for nearly half a century. Financiers and economists outside of our State have asserted, with some heat and vigor, that our system is unsound economically and cannot work successfully; that it is unjust to the corporation and its stockholders, and that as

capital is timid, it will not seek investment in public utilities in Massachusetts. Representatives of some of our own electric companies have sung the same song. The answer to this is that the system has been in operation for nearly fifty years; that in all that time, resort to the Federal courts has been sought by electric companies in Massachusetts but twice, both cases being abandoned; that all of the electric companies in our State are in sound financial condition, and, so far as I am aware, none have difficulty in securing the necessary capital for their developments; and that decisions on rate questions are fairly prompt, and hearings and investigations are rarely protracted. We believe that the good faith of Massachusetts can be relied upon by those who invest their capital in public service enterprises, as it can be relied upon by those who lend the State their money." (Attwill, "Weaknesses of the Valuation System," American Academy of Political and Social Sciences, *Annals*, Vol. 159 (Jan. 1932), p. 97.)

Commissions, informed by experience have discussed and advocated the prudent-investment basis as a sound solution to the difficulties of rate-making. During the consideration by the Supreme Court of *R. R. Commission v. Pacific Gas & Electric Co.*, 302 U. S. 388, the *Wall Street Journal* on December 28, 1937, published the results of a survey of the views of the various State regulatory commissions on the question of the "fair value" theory. The Commissions which expressed their preference were two to one in favor of the prudent-investment basis as the best solution to the rate-making problem. See also, Spurr, "Has Utility Regulation been Reduced to Negotiation and Wheedling?" *Public Utilities Fortnightly*, Sept. 2, 1937, p. 262.

Summarizing, it may be said that the consensus in informed circles supports the investment method for determining just and reasonable rates of public utility enterprises.

Trend to Investment Basis

For some time there has been a rather sharp trend toward the investment basis.

As is well known, the California Railroad Commission has been using that method for a great many years, as has the Public Utilities Commission of Massachusetts. The Public Service Commission of the State of Utah now employs that method. A recent experience of the Utah Commission is of particular interest. That Commission had been studying the rates of Utah Power and Light Company for some time. In cooperation with the Federal Power Commission an audit was made of the company's reclassification of accounts, as a result of which \$29,000,000 of water was eliminated from the accounts. Thereafter the Commission determined an investment rate base and ordered an annual rate reduction of \$1,500,000. The Supreme Court of Utah sustained the Commission in a very able opinion.²⁶

The Public Service Commission of Arkansas has likewise adopted the investment principles. On June 24, 1944, that Commission determined an investment rate base for Arkansas Power and Light Company and ordered a rate reduction of approximately \$1,000,000 per annum.²⁸

The Public Utilities Commission of the District of Columbia for years had been operating under a sliding rate base of Potomac Electric Power Company. The rate base was determined by starting with the valuation figure in 1924, adding the cost of additions, deducting retirements, and including an allowance for working capital. In 1944 the Commission abandoned the hybrid rate base and went over to the investment standard.²⁷

The Public Service Commission of Michigan, after trying to reduce rates of the Detroit Edison Company in a manner calculated to eliminate excess profit taxes, finally ordered a rate reduction of several

²⁶ *Utah Power & Light Co. v. Public Service Commission*, 56 PUR (NS) 136.

²⁸ 55 PUR (NS) 129.

²⁷ 55 PUR (NS) 65.

million dollars on the basis of an investment rate base.

One of the most important developments toward the investment standard occurred in North Dakota early this year. The North Dakota Commission, finding the way toward just and reasonable rates blocked by the fair-value principle, recommended to the legislature that its law be revised so as to sanction the investment method. The response was immediate and overwhelming. The law was revised. The amendments are so succinct and so pointed that I quote the two sections involved therein.

"Section 1. The value of the property of a public utility, as determined by the Public Service Commission for rate-making purposes, shall be the money honestly and prudently invested there by the utility less accrued depreciation.

"Section 2. The value of public utility property for rate-making purposes shall not include or be affected by good-will value; going concern value; or franchise value in excess of payment made therefor."

As further evidence of the trend to the investment basis for determining rate base, I have reviewed the decisions reported in Public Utility Reports for the period January, 1944, to June 30, 1945. There are twenty reported cases involving reductions of \$100,000 or more. Four of these did not involve the computation of a rate base, two employed the fair-value method, one a combination of fair value and cost under a sliding-scale arrangement, and in the remaining thirteen cases the rate base was determined according to the investment principle.

Thus, so far as practice is concerned, there is an unmistakable trend away from fair value and toward the investment standard.

Experience of the Federal Power Commission

The Federal Power Commission in all except one of its formal rate cases has employed the investment principle in deter-

mining the rate base. The one exception was an *interim* order relating to the Natural Gas Pipeline Company of America in which, as previously stated, after the court proceedings on the interim order were concluded, an investment rate base was determined and a further reduction of \$2,750,000 agreed to by the company without further formal proceedings.

Since 1938, when the Natural Gas Act was passed, the annual rate reduction ordered by the Commission for natural gas companies subject to its jurisdiction total \$37,000,000. On a cumulative basis, the reductions aggregate more than \$100,000,000. These reductions apply in the main to ten cases, in all of which an investment base was determined. In one case, namely, that of Panhandle Eastern Pipeline Company, a refund of some \$23,000,000 is awaiting distribution. The Commission's order in that proceeding was sustained by the Supreme Court of the United States.

The Bureau of which I am head played a major role in the cases referred to above. I directed the field work in those cases and also testified in most of them. Basing my conclusions on long experience, it is my firm conviction that the great progress made by the Federal Power Commission in the regulation of natural gas rates is due primarily to its adherence to the investment standard. I doubt greatly whether the first major rate case would have been concluded by the Commission had it elected to pursue the fair-value approach.

It must be evident, therefore, that the investment basis is practical and workable. It is sound, and under it the integrity of the enterprise, assuming it is economically sound, is preserved, capital is attracted, and just and reasonable rates are determined within a reasonable period of time and within the bounds of a reasonable expenditure of funds. As proof of the fact that the method is a sound one from a financial viewpoint, I should like to point

out that when the Supreme Court on January 3, 1944, in the *Hope Natural Gas Company* case, sanctioned the investment method of regulating public utility rates, there was not a flutter in the stock market for public utility securities.

Accordingly, at this stage in the regulation of public utility rates, I feel that the weight of argument, the consensus of impartial opinion, and the results of practice are all on the side of the investment principle. It is the method which I strongly recommend.

HOUSE BILL NO. 505

House Bill No. 505 is designed to make the investment method lawful in Missouri. As stated previously, I am in agreement with the principles of the Bill, subject to two modifications.

Under the Bill the rate base would consist of the cost when the property was first devoted to public use (original cost) less depreciation, plus working capital. My first suggested revision relates to original cost. As to the great bulk of public utility properties in this country, original cost and cost to the utility are synonymous. When a utility has constructed its property, or is the first to devote the property to public use, then its cost is original cost. Inasmuch as the great bulk of public utility properties in this country have been constructed or were first devoted to public use by the utilities which presently own them, it follows that original cost and cost to the utility are the same to a very large extent.

Many utilities, however, have purchased some public utility properties from another utility in arm's-length transactions. These transactions were not usually at original cost; hence as to the acquisitions of going public utility concerns, the cost or investment of the utility which presently owns the facilities may differ from original cost. In the usual situation, in the electric

utility field at least, the acquisition cost has been in excess of original cost. It is my opinion that this excess of present investment over original cost is entitled to consideration in the computation of the rate base.

The excess of present investment over original cost often relates to acquisitions twenty, thirty, or forty years ago. In certain cases the physical facilities acquired have been retired but the excess investment over original cost remains on the books. This excess often represents an investment in intangibles, such as prospective earning power. It is conceivable that the investment in the intangibles initially served a useful purpose and, if so, recognition should be given them in the rate base for a reasonable period of time. On the other hand, the period since the acquisition may be so long that the intangibles have lost their significance and a continued allowance should not be made. If the language of the Act, however, is changed so that the startling point in the computation of the rate base is actual legitimate cost of property used and useful in the public service, I am sure that the regulatory Commission would have ample discretionary power to determine upon the facts of each case the proper allowance to be made for the cost of intangibles acquired in arm's-length transactions.

In order to accomplish the foregoing suggestion, it is recommended that there be stricken from line 8 of page 1 the words: "when first devoted to public use," and there be substituted "used and useful in the public service." The pertinent clause would then read "the Public Service Commission is hereby required to investigate and ascertain the actual legitimate cost of the property of such public utility used and useful in the public service."

The other suggestion I wish to make relates to depreciation. I would suggest the word "accrued" be inserted before

"depreciation," line 9, page 2, and that the words "and amortization" be inserted after the word "depreciation." The word "accrued" has an accounting significance and ties in very well with the procedures used in determining annual depreciation expense. The use of the word "accrued" would give Commissions wide latitude in determining whether the book reserve or a proper reserve should be deducted, depending upon the facts and circumstances in each case. It would also show clearly that the deduction of "observed depreciation," which has done so much injustice

to consumers, is not contemplated.

The word "amortization" should be added because certain investments are subject to depreciation and others, technically, to amortization. This also ties in with the language of Section 2 of the Bill.

As revised, the phrase would read, "the accrued depreciation and amortization therein."

With modifications such as I have suggested, House Bill No. 505 would permit the rate base to be determined in accordance with the investment standard which I have discussed.

CLASSROOM TECHNIQUE

CHARLES V. ESKRIDGE

THE SITUATION in my course "Beginning Accounting" at Biarritz American University was this. Two classes were held in the afternoon immediately following lunch. In addition to the sleepiness normal to all afternoon classes was the fact that GI noon meals are much heavier than those ordinarily eaten by civilian students. So the resultant drowsiness was even more noticeable. Any hot summer afternoon is a difficult time for concentration and study, but for GI's, many of them combat men who had done little serious study for years, it was a particularly trying time.

The beach was calling: swimming in the surf, visiting on the sands with *les jeunes filles francaises*, playing volley ball, sunbathing (a special treat for all of us who had been starved for warm sunshine during the rigors of the previous winter). Other sports were calling: tennis, golf, badminton, bicycling through the Basque country. These possibilities would be distracting to students at any time; doubly so now and here.

But that was not all. Theater classes as

well as University radio programs were requesting students to make try-outs and to come out for rehearsals. Then too, there were GI movies, French movies, stage plays presented by the University, concerts, athletic contests, the GI "coke" bar, dancing at the Bon Marche, pingpong tables, and card tables. And visits in French homes were arranged under the auspices of the French-American Welcome Committee. These night attractions, which constituted such a strong temptation for pleasure-starved soldiers who had been stationed in out-of-the-way places of France and Germany, all made for sleepiness in class the next day.

Furthermore, many of the men were homesick, ETO-weary, mentally and physically tired out, unaccustomed to study after two to four years in the Army. There was a strong aversion to volunteer. No "right minded" GI will volunteer for anything, whether to work or to ask questions. Group psychology in the army is against anyone who asks questions. Another hurdle to overcome was the fact that I was an officer with enlisted men as students; this

automatically raised somewhat of a barrier.

As instructor it was my problem, first of all, to stimulate interest. Second, a desire to learn must be created which would help break down the psychological barrier of officer-enlisted men relationship. Third, ways had to be devised which would help the men to understand difficult points in the subject matter. Fourth, I must help them remember these points. Fifth, I must develop ways to keep them mentally awake and alert during class instruction.

The effort made towards gaining the cooperation of the class followed this outline: The name of each man in the class was learned within a week. Even before the first class session I studied the list of names of students enrolled in the course and by first roll-call many of the names were already familiar. During the first week, roll-call was taken with a show of hands so that a conscious effort could be made to connect the face with the name. After the end of the class period a quick review was made of the register and as many faces brought to mind as possible. This procedure was followed the second, third, fourth, and fifth days both before the class as a last-minute review, and after the class in order to increase the number of students who could be recognized by name and by face. With the development of class discussions and as students began to ask questions, so far as possible each man was called upon by name without reference to the register. At the end of the course, some of the students remarked that the use of their names had made a profound impression on them. I felt the efforts to know every student by name before the end of the first week were well rewarded.

In order to break the habit of not volunteering, the following procedure was used. Even though questioning at any time during a lecture was encouraged, still any lecture was always concluded by

the query, "Are there any questions?" If there was no response, four students were selected to go to the blackboard and work on problems illustrating the topics just covered. These accounting problems were carefully selected prior to class for just this purpose, and the students selected were exactly those whose faces showed a certain amount of puzzlement and uncertainty which they did not clear up by asking questions. As soon as the class realized that failing to ask questions simply meant that they would have to ask them in a different manner, the old Army habit was broken and questions began pouring forth.

In order to combat the summer afternoon lethargy, it was made quite clear to the class that the instructor was entirely sympathetic with the difficulty of attending class after heavy meals on hot days, and that they need not feel embarrassed about being sleepy. The drowsy members were invited to stand up and go to the rear of the class for some fresh air, and to leave the class at will for either a drink of water or a smoke without requesting permission. Only one man took advantage of this, but psychologically it seemed to clear the air when they knew that if they felt sleepy they could take appropriate counter-measures to suit their convenience.

Furthermore, since the name of each man was known, it was a simple matter to question any individual who showed symptoms of oncoming drowsiness, and thus awaken him by a recitation before the drowsiness had proceeded too far.

Another method of gaining the cooperation of the class was by following their lead to a certain extent in the development of the course. Any time a question was asked, even though irrelevant to the matter on hand (if that question pertained to accounting material which would normally be taken up at a later date in the course), the question was answered fully and completely at the time if I felt the

class had sufficient background to grasp the major portion of the explanation. The reason underlying this approach was to develop naturally and informally the subject matter and to make it seem less formidable and easier to understand. Then later on, in following our text, when we came upon the same subject the class was reminded that the reading assignment was merely a review of what had been taken up previously in class discussion. The object of this was to overcome the feeling that accounting was a difficult subject.

It might be mentioned that at the end of the first week, the nomenclature of all first semester terms was taken up and a brief explanation given. Among items

discussed were Depreciation of Machinery, Reserves for Depreciation of Machinery, Accrued Rent, Prepaid Interest, and so forth. The reason for this discussion was not to explain in detail these various accounts, but simply to set up a large, overall, "skeleton structure" or pattern into which the component parts would fit at a later date. It might be said that we first set up the framework of the course, and then went back to build room by room, rather than following the process of adding one room to another. Many of the students at the end of the semester said that getting the over-all picture at the beginning had made it much easier to see the various parts of the course in a coordinated whole.

PRIVATE OR PUBLIC ACCOUNTING

THOMAS W. BYRNES

COLLEGES offering courses in accounting have lately been besieged by applicants for admission. For the most part those desiring to enroll are honorably discharged veterans whose educational programs were interrupted by induction into the services. Among those accepted many are taking refresher courses and all are faced with the perplexing problem of choosing sooner or later between a position in the accounting division of a business, institutional, or governmental activity and a career in public accounting.

Most of the literature on the subject has been written by professionals who have highlighted the public practice of accounting. The writer was told recently at a student conference that he is one of the offenders, and evidence was presented in the shape of his little contribution wherein "ten chapters are devoted to the public and only one to the private phase." These lines are submitted as gestures of repentance and mollification, and also in an attempt to compare dispassionately the two fields.

At the outset it should be understood that for those who seek preferment in either branch the pre-academic requirements and the undergraduate studies are similar. A divergence in preparation need not occur until the student decides upon his or her future career. Before entering upon postgraduate work it is extremely important that aptitudes, inclinations, and temperaments be considered quite as carefully as the advantages and opportunities of private versus professional employment.

The desired qualifications for public practice have been described in various books and articles, particularly in treatises prepared under the direction of, and available at, the American Institute of Accountants, 13 East 41st Street, New York City. For private accounting they would be the same, but the successful public practitioner must be so constituted that he can carry the intimate affairs of many concerns in his mind at all times and be able to transfer his attention from one to

another at a moment's notice without indicating perturbation. Not all persons can so adapt themselves to rapid changes, and many able accountants leave the profession to accept private positions on this account.

Any statement regarding the advantages and disadvantages of the two accounting fields must be related to the temperament and the ultimate goal of the aspirant. In business organizations accountancy-trained persons find their principal work opportunities in positions leading to cost accountant, internal auditor, chief accountant, credit executive, controller, and treasurer. Institutions such as universities and hospitals offer berths as bursar and business manager. In governmental departments investigative accountants, tax auditors, and analysts are in demand. The ultimate vocational opportunity in public practice is that of staff supervisor and principal. Private accounting offers in large accounting departments more rapid advancement to those who possess the requisite training and initiative than public accounting. In the former the life will be easier and more regular; the financial rewards are likely to be higher to the beginner than in public practice where the revenue is derived from the sale of professional services. Also, in business employment there is not the fear of loss of position that exists in public accounting because of relaxation of seasonal peaks in the latter. The more general adoption by business of a natural business year, rather than the calendar year closings, will in

time overcome the last-named disadvantage.

Many accountancy graduates unable to decide which field to pursue have accepted private accounting positions temporarily. This action is advantageous for those who desire the CPA certificate but have not yet passed the three "reading" subjects, because it insures their presence in town at quizzes and at the dates of the CPA examinations. Public accountants' assistants are often assigned to out-of-town engagements which interfere not only with preparation for but also attendance at examinations. For those who have been successful with the "reading" subjects it would seem unwise, because of the service requirements, to enter, or to continue in, private accounting until the practical test has been passed.

The Rubicon having been crossed, the postgraduate student must take the educational road which will lead to the desired destination. The private accountant should explore advanced courses in management, internal control, controllership, and the like, while the aspirant to professional practice should delve deeply into accounting systems, auditing practice, consolidations, taxation, etc.

In the foregoing remarks an attempt has been made to state impartially some of the pros and cons of a question which confronts a great many present-day accountancy students. In the last analysis, however, each individual must decide for himself, after mature consideration, whether he will enter private or public accounting.

COMPONENTS OF A MODEL PERMANENT FILE

CLIFFORD S. BRISON

THE INSPIRATION to write this article came from studying the refresher course on *Contemporary Accounting*, published by the American Institute of Accountants, in which there is an excellent chapter by Maurice E. Peloubet on "Audit Programs and Working Papers." In this he refers twice to the "permanent file" but does not elaborate its contents.

The components number fourteen, which fall under three main classifications:

GOVERNING OR FUNDAMENTAL DOCUMENTS

I. Copy of articles of incorporation and by-laws of a corporation or copy of deed of partnership.

II. Marked copy of any trust deed re funded debt.

Mandatory provisions re: payment of dividends, maintenance of a specified ratio of current assets to current liabilities, and any others pertinent to the accounts should be sidescored in the outer margin to facilitate reference.

III. Copies or excerpts of minutes of continuing and cardinal importance.

E.g., stockholders' altering the capital structure; directors' decisions anent: policy regarding depreciation, valuation of inventory, or setting up an employees' retirement plan.

IV. Rescripts or précis of agreements of the first and lasting significance.

E.g., agreements with: the President, labor unions, and suppliers of basic commodities.

AUDIT GUIDES

V. Copy of memorandum of client's

engagement instructions and representations.

This and other components consisting of one or two sheets of paper should be mounted on cardboard so as to withstand continual handling during the course of audit.

VI. Card of accounts and/or copy of client's accounting manual(s). These should be copiously cross-indexed (in green) to corresponding items or persons in components VIII and IX (β).

VII. Seven-year plan of audit.

This component might consist of sheets of fourteen-column working paper whereon are listed, in the four left-hand columns, descriptions of the work to be done—these should be double-spaced to allow for emendations (as developed by experience)—and the reasons for changes and dates thereof should be stated in the last three columns headed "remarks." This would leave seven columns, headed by the seven years, in which would appear the initials of the assistants and the beginning and ending dates of the work as and when completed by them. A seven-year plan will allow for variations in emphasis from year to year: those items which should be stressed each year being underlined, and those from time to time sidescored (and initialed) by the reviewing partner or manager in left-hand ruling of column(s) of the year(s) selected.

VIII. *Aide-mémoire* re system of internal check followed by the certificate of

the in-charge assistant as to its adequacy and the initials of the reviewing partner or manager.

The first reference to internal check in our language was made somewhere in the fourteenth century by glorious Geoffrey Chaucer¹ writing in London. It is quoted below:

"The thridde day this marchant up
ariseþ,
And on hise nedes sadly hym avyseth,
And up into his countour-hous gooth he,
To rekene with hym self, as wel may be,
Of thilke year, how that it with hym stood,
And how that he despended hadde his
good,
And if that he encessed were or noon.
Hise bookes and his bagges many oon
He leith biforn him on his countyng-bord.
Ful riche was his tresor and his hord,
For which ful faste his contour dore he
shette,
And eek he nolde that no man sholde hym
lette
Of hise accountes, for the meene tyme;
And thus he sit til it was passed pryme."

Nearly a quarter century ago, when I designed what was probably the first questionnaire re internal check to be used extensively in our profession, I was careful to label it an *aide-mémoire*, thereby impressing upon its users the fact that it was intended merely as a reminder, and was not in content or emphasis for every type of audit. Mr. Peloubet has made some significant additions to my modest beginning of ninety and nine questions in all.

This component should be cross-indexed to corresponding items or persons in Components VI and IX (β).

IX. Charts of

- (α) Organization—in the case of a company with subsidiaries.

- (β) Personnel and duties—these should be cross-indexed with components VI and VIII.

- (γ) Processes—in the case of a manufacturing concern.

- (Δ) Statistical comparisons by years.

I can recall an instance in which, by comparing some statistics prepared by the sales department with the figures shown in the accounts, a million-dollar error was revealed in the audit of an internationally-known manufacturing concern in New York State.

The above charts would ordinarily be prepared by the client's staff.

X. Copies of:

- (α) Tax returns.
(β) SEC filings.
(γ) Other returns containing accounting data for government departments.

XI. List of plants, offices, and/or stores, their locations and how to reach them.

This component might contain notes such as the following:

"Arrangements should be so pre-planned that two or more of our assistants be engaged at the Mount Pedro (#2) plant on a Friday, since on that day of the week the plant paymaster, Leonard Judd, rides over the Sierra Marias to the Pleasant Valley (#3) plant, and is always willing to give our men a lift; there is room for two in the car besides the payroll box and the armed guard. By accepting his offer, at least half a day is saved, since the trains at Mixup Junction (near Elizabeth City) do not connect.

NB. Authority for Mr. Judd to take passengers on this trip must be obtained in writing from the company's treasurer, Adam Bede, of the Los Angeles (#1) plant.

"There are objections to the use of 'Miss Joan Shaw' (the firm's private aeroplane) on this sub-assignment: (α)

¹ Chaucer, *Canterbury Tales*, lines 14486 to 14499.

the airfield at Pleasant Valley is small and poorly equipped, and fog often prevails at that time of the year. (At present, parachuting to reach regular audits is not allowed by the firm.) (b) David Alard (the executive partner) usually rules that top priority be given in its use to the men then engaged on the audit of the Caribbean Mercantile Corp."

SYNOPSIS OF ACCOUNTS

XII. Historical epitome of the accounts.

This component might be arranged in the form of a cumulative statement of sources of funds and their disposition from the inception of the concern down to date, arranged in columns which would be subtotaled by years.

XIII. Master schedules of noncurrent accounts.

This component would be compiled by transferring from the current working papers each year the master (or top) schedule of such as: capital assets, permanent investments, funded debt, reserves, capital, "excess capital" (capital surplus), and surplus, leaving in the current file the detail of the changes during the year and their verification.

XIV. Published-accounts file.

In the case of a long-established client, this file might well be made ancillary to the main permanent file with only the most recent annual accounts forming the component. Representing, as it does, the summum bonum or end result of the accountant's labors, it might well be filed on top of the permanent file with the fundamental documents (as being also least referred to) at the bottom of the file.

Indexing and Filing of the Permanent File

A rubber stamp or, better, a sticker

printed in green with the following:

C.P.A. & Co.

Permanent File No. _____

Component No. _____

Year _____

should be affixed at the top right-hand corner of each component. The file number would be the client's regular number. Roman numerals and Greek letters should be used in indexing the components, and made uniform throughout the organization. The word "component" should be used to distinguish the parts from the "schedules" and "exhibits" of the current working-paper files; in indexing, green ink, or chalk, should be used to differentiate further the papers from those of the current file, which are usually indexed in red.

Some of the necessary cross-indexing has already been referred to under components VI, VIII, and IX (8).

In preparing the permanent file for filing, it may be found impossible to fold every component to a uniform size for binding, and, in any event, a spike should not be used as it will be found necessary often to disassemble the file. Items composing individual components might be spiked together, and for the whole a giant spring clip might be used.

In the case of a company with numerous subsidiaries, a deed box might be used. In such cases also, it may not be necessary to take onto the job more than the last few years' components, V, VIII, X, XIII, and XIV.

The whole of the permanent file should be treated as esoteric—thus providing one more instance of the mystery which should properly attach to any professional man performing before his laity.

The seven-year plan of audit (component VII), however, might well be marked "Top Secret—Not to Fall under Clients' Eyes." In case of accidents, it

should not be sidescored for more than one year in advance, and this might well be done during the review of the current audit or during the now-busy season.

Compared with the hard work represented by the current file of audit working papers, the compilation and bringing up to date of the permanent file will be found to be almost a pastime. The time spent on its initiation, however, will be found to pay dividends:

1. in time saved in the routine work of the current audit;
2. in reviewing the work—particularly, in obtaining a telescopic view of it;
3. in building up goodwill with the client who is apt to regard with favor an assistant, new to the audit, who will not have to ask so many questions, because by referring to his permanent file he can find the answers.

WAGE FUND AND FULL EMPLOYMENT

PERCY WALLIS

Query: If all wage payments were determined as a contracted percentage of the total income produced, would it not be reasonable to expect that competition of workers would no longer be needed to fix the wage rates necessary to produce full employment?

ACCOUNTS for all businesses of a nation are prepared each year. Probably no attempt has yet been made to complete the accounts so that the result of the whole trade of a nation can be examined. It is therefore, interesting to find that they can be calculated. The *Fifteenth Census of the United States and National Income, in the United States, 1929-32*, supply all the necessary information. The details included in these two reports are arranged as accounts to illustrate these notes.

The attempt to prepare national accounts shows that the form of accounts used for individual businesses is not satisfactory. This became evident when national income estimates were published. "A New Method of Accounts" published in *The Accountant* (London, September 19, 1942) was suggested by the income estimates. The preparation of national accounts shows that the improved method suggested then requires further modification.

The evolution of accounts is not fully recorded and no satisfactory history appears to have been published. Probably the first businessmen to make use of ac-

counts were the merchants of the Middle Ages. The early forms were simple cash accounts usually prepared as an aid to memory. Tally sticks and other early forms of money records were also mainly an aid by which to remember incomplete exchanges.

Exchanges took place long before money was used and were very difficult to remember in exact detail. The use of money as common denominator made written records possible. For the small business a simple cash account was sufficient to keep a record of the chief transactions. The balance of cash in hand was accepted as showing that the business was successful.

The change from the simple cash account to a fuller record including stock and wages in the form of a trading account is a modern invention. The Trading Account as used for business accounts was not invented till the end of the nineteenth century. The new form of accounts came into general use only about 1905.

The recent alteration in the form of accounts makes a further modification reasonable now that the more complete records of the nation's income are available. The ordinary transactions of buying and

selling appear to be so simple and well known as to require no further consideration. The "profit motive" and the idea that business is expressed by "buying cheap and selling dear" are two common fallacies. The study of national accounts makes it quite clear that buying and selling (or exchange) is always exactly equal and that there is practically no item in the accounts that expresses the special gain associated with the word profit. Instead all business is employment—busy-ness. The result obtained by business, whether classified as wages, salaries, interest, dividend, or employers' drawings, is produced by employment. The difference arises from employment of some kind and not as the result of buying and selling. This conclusion is arrived at through a careful study of the nation's accounts. Any other conclusion must be supported by accounts prepared in such a way as to show where the "profit" not produced by employment arises.

An example may show how the difference arises. Merchants were probably associated with the first accounts. Their accounts would record buying certain goods in one market and selling in another. It is therefore, a very natural conclusion that the difference is the result of buying cheap and selling dear, or a "profit." Actually the merchant bought, say, furs from a hunter who trapped animals in a distant country. The hunter has bought nothing and yet sells furs. The hunter's accounts show money received from the merchant representing the goods produced by his employment or business. The real transaction is an exchange. The merchant has bought furs with money and the hunter has bought money with furs. The real item of exchange is the goods the hunter obtains with the money received for the goods (furs) he has produced. The money is only a means of measurement. The exchange takes place at the same time, and

both give and receive things that are equal.

The merchant transports the skins to some other place and trades them to a craftsman who makes fur coats. The craftsman pays more for the skins than the merchant paid to the hunter. Although this difference is present, the sale to the craftsman is still an exchange and therefore equal. The merchant buys money from the craftsman and the craftsman buys skins from the merchant. The transaction is a complete exchange, exactly the same as that made with the hunter.

If the merchant uses a trading account it will show a balance that can be referred to as a profit. Since the merchant was probably the first person to use accounts it is natural that what appeared to cover the transaction in his business was generally accepted for other accounts. It was not realized that the same method of accounts did not record the business of the hunter or the craftsman.

To bring all three accounts into line, the form of the merchant's accounts should be so altered as to show the exact transaction. The merchant has bought and sold goods at two different prices. The difference does not occur in either the buying or the selling. It is the result of the merchant's business or employment. The business is carried on so as to arrange for the disposal of goods—in this case skins prepared by the hunter—and provide the raw material for the craftsman. It is the service to the community that creates the difference. There are therefore, two quite distinct transactions, the buying and selling referred to as "trade" and the business of the merchant or his employment. If the merchant does all the work himself there is little point in separating the transactions. When the merchant employs other persons and pays wages the two separate accounts become necessary. Buying labor and selling the service rendered by that

labor, although a complete exchange, is not quite the same type of transaction as buying and selling goods. The labor is employed, and the result of that employment is not correctly expressed as either profit or trade.

From a national point of view the amount is part of the income of the nation or part of the result of employment. It is not trade—meaning buying and selling; it is not profit—meaning a special gain. The only word that really expresses what one wants to know is business or employment. In these notes and accounts the two sets of transactions are shown first by a trade account, or buying and selling; second, by an employment account or business account, covering all that part of the transaction which is included as part of the national income. It is then possible to show what part each industry and each individual takes in the production of the national income.

The accounts then would show the result obtained by the persons who are employed and the proportion of that result which is received by each class of persons taking part. It also becomes evident that the incentive is the total produced by employment and not a mere fraction of the production that can be referred to as profit. The accounts also show how each industry and each business adds a fraction to the total result. (See Table I in the Appendix.) The final service in the form for actual consumption has passed through many hands, each adding its quota to the final result.

Accounts also show that the final price is exactly equal to the amount paid out for each type of employment. The payments may be classed as wages; salaries, interests, dividends, royalties, or employers' drawings, but all are the result of some type of employment. The result obtained by that employment is the incentive, not only a small fraction of that result which an employer may refer to as his profit.

The great depression that came in 1930—the aftermath of the first World War—suggested to the American government an enquiry into the change the depression made in the national income. The report of the enquiry shows a great change in the cash income caused by the fall in prices in 1929 to 1932. To correct the fall in prices it was decided to alter the gold content of the dollar by devaluation. The adjustment of 69 per cent was made by altering the price of gold per ounce from 20.68 dollars to 35.00 dollars. The change in the national income made by devaluation is clearly shown by the estimates of income in the years following the change. In 1929 the total income is estimated at 78 billion dollars which was reduced by the depression to 45 billion dollars in 1933. Devaluation was made in 1934 and the income gradually increased to 69 billion dollars in 1937. (See Table VII.)

For full appreciation of the change it must be realized that the difference in the two incomes of 1933 and 1937 is only in money. The actual income in goods in the two years is the same for all persons in employment. The 10,000,000 persons unemployed in 1933 received a smaller real income because no income was produced by them. All the others received the same real income although they had 58 per cent less money income.

The chief change made by devaluation is in gold mining. The alteration in the price per ounce caused a 69 per cent increase in the income of the gold miner. The difference is shown by the great increase in gold production. The gold mines of the world increased their production from 24,548,000 ounces in 1933 to 36,750,000 ounces in 1937, and the production has further increased.

An examination of the accounts for the different industries will show that the earnings of all other industries must have a direct relation to the earnings in the gold

mines. Any industry or business that has an earning capacity above other industries attracts more persons to join the industry. The reverse takes place if the earnings are below those of other industries. This action tends to keep a similar earning power in all industries when the same quality of labor is employed. The gold mining accounts for 1929 show that other industries were above gold mining in earning capacity. (See Table IV.) So long as gold is used as the measure for the money price of other goods, this movement of employment must force all other industries to the same earning capacity as the gold mines.

Because agriculture produces many raw materials for other industries it is advisable to start with the accounts for this industry.

AGRICULTURE BUSINESS ACCOUNTS FOR
1929. (TABLE II)

The accounts are arranged in the proposed new form for accounts. The old form of accounts gives the rather absurd conclusion that agriculture is the most profitable industry. In the income report wages in this industry are given as 16 per cent and profits as 84 per cent. All other industries are shown to be nearly the reverse with wages and salaries 80 per cent and profits 20 per cent. When arranged in the new form, the accounts show that the real proportion is similar in all industries.

In the accounts no attempt is made to show the total capital in the balance-sheet form. From the capital used to the finished goods for consumption the whole production is the result of employment, therefore employment is the only source of income. A correct measure of all income can only be obtained by the complete employment accounts for the nation. When the income of each industry is divided into percentage shares, the shares show the proportion of the national income that the persons employed receive in exchange for the work done.

In agriculture wages and drawings by the farmer are 80.7 per cent of the total produced. This means that 19.3 per cent goes to other persons in return for the help given to the industry in providing the cultivated land and the buildings. The cultivation and the buildings were produced by past employment. If the industry is satisfactory the land and buildings must be in the same condition at the end of the year or period. If not, the current employment has taken out of the farm in the form of income more than their employment has produced. There is no form in which capital is used that lasts for an indefinite period. The land soon becomes waste unless well cultivated each year. Buildings rapidly deteriorate unless renewed and repaired.

The only question that can arise is whether the 19.3 per cent paid for these capital assets is fair and reasonable. This point will be further considered in dealing with the main point, full employment.

The value of the use of capital in connection with the accounts for this year 1929 is to be judged by whether the result is better or worse than in previous years. Unfortunately, there is no exact information. Estimates of national income are made from the previous Census but only for the total income (See Table VII.) The average income in 1849 is estimated at 244 dollars. In 1849 agriculture probably formed a larger percentage of the whole. Probably the agricultural income might be estimated at about 200 dollars per person, compared with 1,101 dollars for 1929. This very large difference is partly due to a higher price level in 1929. When the result of inflation is deducted it leaves 651 dollars per person, or an increase of $3\frac{1}{2}$ times in 80 years. The whole of this increase is the result obtained through the improved production caused by the use of capital. Of this increase 651 dollars, 80.7 per cent, goes to the benefit of the persons directly con-

cerned. That is, the farmer receives 525 dollars and the owner of land and buildings, 126 dollars. There is no suggestion that the division is correct, but it is evident the gain is far greater to the general public than to the capitalist or landlord.

The accounts presented in Table II have been altered from the national income estimates by the inclusion of rent in the employment account. This difference is made necessary to correct the relation to other businesses. In the income estimates rent is included under real estate and not allocated to the separate industries. This arrangement only makes an important difference in agriculture. The rent paid for land, etc., is definitely the result of work done by those employed on the land and should be added to their production.

The showing of 489,000,000 dollars in taxes in these accounts raises an interesting point. In the total income (Table I) government is shown as producing 8.22 per cent of the total income. This income is produced by the persons employed in government services. Taxes are the payment by other persons for the service rendered by the persons employed in government. Therefore, taxes are the purchase price paid for services rendered exactly similar to purchases of goods or power.

Unfortunately a certain amount of duplication occurs because the whole amount paid in taxes is not shown in the accounts. All indirect tax payments such as customs and excise are included in accounts and cause no duplication. It is the direct tax paid by individuals that causes duplication. Some wage and salary earners pay taxes out of wages and salaries received. The wages and salaries are shown in the employment account at the gross amount. The correct arrangement would be to include as a purchase all taxes paid by any person in the trade account, the net amount only to be carried to income in the employment account. This arrange-

ment also applies to rates on private dwellings. The actual income received by any person is the net amount after payment of the tax. The income represented by taxes is the income produced by government employment and not by the individual who pays the tax.

The number of persons employed per farm is very small. (See Table VIII.) The figures are rather exaggerated because the unpaid family is not included. In spite of this difference the number is so small as to show a low standard of organization. Organization on the farm is not easy. Whether it will be possible to improve the organization under full employment remains to be tested. The income return being so much lower than in other industries proves it to be badly organized now. It is to be hoped that an improvement can be made that will raise the production per person to the level of other industries. Unless this can be done the number willing to work in agriculture will quickly fall off under full employment.

MINES AND QUARRIES BUSINESS ACCOUNTS FOR 1929. TABLE III

Mines and quarries is the next business to be considered; like agriculture it produces the raw materials for other industries. The average number employed per business is much larger at 83.50 persons per business. The income produced per person is larger at 1,530 dollars. This is, though, below some other industries. Probably a number of small quarries account for the lower average. This fact is illustrated by the average production in gold mines (Table IV). In 1929 gold mining was at a disadvantage owing to war inflation. Even under these difficult conditions the production was 1,905 dollars. The accounts for coal mining show a still better result but the data for exact accounts are not available.

In both coal and gold mining a large

amount of capital is used. The common impression that capital is a sum of money that can be invested in any business is definitely contradicted by the accounts of this industry. A large amount of capital is employed in the construction of the shaft in the mining industry. When the ore that can be reached by the shaft is worked out, the whole of the capital employed in the making of that shaft is used up. To retain the business at the normal productive standard, development must be carried on. "Development" is the replacement of the capital used up so that the area in which the seam of coal or gold can be reached is maintained. This fact is shown by the item "development" shown in the accounts.

The replacement of the capital used out of current income occurs in all businesses but is particularly evident in mining. In considering the interest or dividend earned this fact is very important. It is evident that no gain is made by the capitalist before the end of a term of years, according to the rate of interest. If a 5 per cent dividend is paid the term is 20 years, if 10 per cent the term is 10 years. The capital used every year is shown by depreciation to be large. It is, therefore, probable that the original capital subscribed for any business is completely used and destroyed at the end of ten years.

This fact means that out of the current income created by employment each year one-tenth must be deducted to replace the capital employed. In spite of this important extra cost, the use of capital has increased the available income four times. (See Table VII.) The deduction for the replacement of capital is a first charge on the total income; therefore on the average 80 per cent of the replacement is contributed out of wages and salaries. From this fact it might be deduced that the ownership of the capital should change.

The point of ownership is not covered by the problem of accounts under con-

sideration and the point is too complicated for full consideration here. In passing it may be well to keep in mind that ownership conveys no advantage other than the right to organize. The capital once employed in a business cannot be transferred. This is confirmed by the shaft in mining. The organization or executive shown in the accounts can only take a share in the income produced. This share is shown to be an average of about 20 per cent. If the ownership is transferred to other persons or to a government the only gain can be a smaller percentage to the executive or a larger income produced. The ownership confers no other advantage excepting that of directing the method in which it is used.

GOLD MINES BUSINESS ACCOUNTS FOR 1929. TABLE IV

Although gold mining is included in the Accounts for Mines and Quarries, Table III, it is shown separately because of the importance of gold as the money standard.

The important difference caused by the use of gold as a standard for money is shown in the accounts. To act as a money standard the price of gold must be fixed so that any alteration in prices is shown by the alteration of other prices compared with the fixed price of gold. Therefore, if other prices rise above gold the gold mining industry is depressed and cannot be made to pay. The reverse is also true. In 1929 the average mines and quarries show wages as 77 per cent and the executive margin as 23 per cent. Gold mining shows wages and salaries as 88 per cent, and executive as 12 per cent, making gold mining 11 per cent below all similar trades. Gold mining was at a great disadvantage and the production was reduced. The reduction was shown by the number of persons employed. In 1909 the American gold mines employed 43,191 persons; by 1919 the number was reduced to 17,531 persons, and in 1929 there was a further reduction

to 6,571 persons. To restore the gold mining industry to normal conditions there are two alternatives. First a reduction of all other prices and wages to the old proportion to gold, or second an alteration of the gold price or as it is usually termed "devaluation of the currency." The second alternative was adopted in 1934. The price of gold was raised to 35.00 dollars for one ounce of gold.

If this change had been made in 1929 it would have meant that the earnings per person employed would be raised from 1905 dollars to

$$\frac{1905 \times 35 \text{ dollars}}{20.68 \text{ dollars}}$$

making the total earned 3,224 dollars per person. This change would have made gold mining the best paying industry and would indicate that more gold was required. The production would have been increased by the less prolific mines being brought into production, and the earnings brought into line with other industries. Such a change is shown by the great increase in world gold production in 1939. The production of 39,150,000 ounces compares with the world production in 1929 of only 19,700,000 ounces. This action of price changes on the production in gold mines is the normal check that controls prices in peacetime. Under the urgency of war conditions this check breaks down and allows the rise of prices above the standard set by gold and is referred to as inflation. Under normal conditions the check works with great precision and prevents the slightest deviation of prices above or below the standard that is fixed by the production of gold per person. If the production of gold per person increases, all prices rise exactly in proportion so that the earnings per person are kept in the same proportion. This relationship is shown by the average earnings per person in each industry.

In comparing gold mining with other mines and quarries the difference in earning capacity is shown by the percentage added by employment to the purchases. Mines and quarries show 154.2 per cent added and gold only 98.3 per cent added.

CONSTRUCTION BUSINESS ACCOUNTS FOR 1929. TABLE V.

The building industries come next in order because they use the greater part of the raw material produced by mines and quarries. The earnings per person in this industry, 2,041 dollars, are well above the average for all industries shown in Table VII. The total for all industries includes agriculture, which makes a large difference to the average.

The old conception of business as expressed by "buying cheap and selling dear" is shown by these accounts to be a fallacy. The difference between buying price and selling price is reduced to only 110 per cent and the income per person is nearly double the amount earned in agriculture in which the percentage is 260 per cent. It is therefore quite evident that the difference is all added as the result of employment and has nothing to do with selling dear. The selling price is fixed by the relative cost of production in human energy shown by the amount of time taken to build and the amount of gold that same time would produce in a gold mine.

This old confusion of thought is illustrated by the use of the words "gross profit" in ordinary accounts. It is further confirmed by the idea that no accounts are complete without a profit and loss account. Every business is carried on to produce income and, as is shown by these accounts for a nation's industry, the proportion of the income covered by the word "profit" is absurdly small even if it can be discovered at all. Employment creates income. Therefore, accounts should show the exact amount of income and how that in-

come is divided. It soon becomes evident that no business can be carried on to show a loss of income. It is only in the experimental stages of a business that a loss of any kind is possible, and then only for a very short period.

MANUFACTURES BUSINESS ACCOUNTS
FOR 1929. TABLE VI.

Manufacturing industries are particularly interesting because a full Census has been taken every ten years commencing in 1849. The national income estimates did not commence till 1921. In making a comparison of the two results it was found that the wages and salaries in Manufactures gave a very close approximation to the average wages and salaries shown for the whole nation. Taking the wages and salaries given in the Census return for manufactures in 1849 as an indication of the average wage for the nation, it is possible to make an estimate of the national income. The results of these calculations are shown in Table VII. From these income estimates it is possible to find the amount of the war inflation included in the 1929 estimates.

In 1929 the national income report shows the average income to be 1,751 dollars. At the time of this estimate the price of gold was 20.68 dollars for one ounce. Therefore, the income was supposed to be equal to 84.7 ounces. The gold mining accounts show that this basis did not give to the gold miner a return equal to his usual share in the national income. The gold miner therefore, left the gold mines and took up work in the base-metal mines where the income was higher. This difficulty was adjusted in 1934 by raising the price of gold to 35.00 dollars an ounce. This alteration means that the average income, instead of being equal to 84.7 ounces of gold, is only equal to

| |
|-------|
| 1751 |
| 35.00 |

or 48.6 ounces. From the result of more recent estimates it is evident that the change in the price of gold by devaluation was not sufficient to cover the whole amount of inflation. If the correct alteration had been made, the income in 1937 should return to the same number of dollars as in 1929. The error is shown by the income in 1937 being only 1,595 dollars or 45.6 ounces of gold. It is therefore, probable that the standard income of the gold miner should compare with an average income of about 1,575 dollars. This shows that the inflation in 1929 was as 20.68 dollars (the old price of gold) is to 38.9 dollars, or 88 per cent. The actual devaluation was equal to 69.1 per cent, showing an error of 19 per cent.

The difference that the use of capital has made to the income of the nation is also shown by the records of this industry. As shown above, the income in 1929 after inflation is deducted is equal to 1,575 dollars. When reduced to gold the income is equal to 45 ounces of gold. In 1849 the use of machinery and other forms of stored employment was beginning to be adopted. The income in 1849 was probably about 244 dollars for all the persons employed, including slave labor. Since that year a great increase in the capital employed has been made. At the same time the income has increased from 244 dollars to 1,575 dollars. Labor may be better organized but the main cause of this great increase is brought about through the use of power, machinery, and other forms of capital. When both incomes are reduced to ounces of gold at the current price per ounce the difference is shown to be as 11.8 ounces in 1849 is to 45 ounces in 1929, or a 281 per cent increase. If both incomes are calculated at 38.9 dollars an ounce of gold, the difference is as 458 dollars in 1849 is to 1,575 dollars in 1929. The difference is therefore, 1,117 dollars. Of this increase 82 per cent is paid out in increased wages and salaries equal to 916 dollars; the bal-

ance of 201 dollars is paid out to the executive for the use of the capital and organization. In the consideration of the advantages or otherwise of nationalization it is well to remember that the only saving that can be made is out of this 201 dollars. If the cost of government control was less than 201 dollars per person it would mean a saving to the community. A higher cost per person would mean a loss. The cost of government shown the accounts (Table X) is 6,456,288 thousand dollars. The persons employed in all industries in 1929 were 44,859,000. Therefore, the cost of government per person was 144 dollars. A similar cost for the organization of industry leaves a very small margin out of which a gain to the community can be made.

To make quite certain that the total gain to the community is equal to 1,117 dollars it is necessary to compare the prices of goods at the two periods. In calculating the total gain the income in 1849 was increased by the difference in the price of gold. The same difference must be made when comparing the prices of goods. Prices of goods in America for the two periods are not available. To give an indication of the price level, the prices in the United Kingdom are shown in Table XI. To help the comparison, the prices for 1849 are shown in the third column at the inflated price to compare with 1929 prices. No exact comparison can be arrived at because of subsidies and controls. It is evident, however, that prices in 1929 are certainly not anything like 300 per cent higher than in 1849. It is probable that the general level of prices would be slightly lower in 1929 than in 1849. Therefore, the increase in wages of 916 dollars is a definite increase and not merely a change in the money received.

The wage earner, after buying the necessities of life in the same quantity as in 1849, would have a large surplus of nearly 500 dollars to use for luxuries, leisure and recreation. These facts prove the great gain

obtained by the whole community from the capitalistic system. When considering the advisability of a change in ownership it is of great importance that the gain obtained under present ownership should not be overlooked. The great increase in leisure in addition to the gain in dollars is also important. The hours worked by the persons in employment in 1929 were 49 hours per week, which compares with 55 hours in 1909, and probably something over 60 hours in 1839.

The amount added by employment in manufactures is 35.7 per cent. This small percentage shows there is no evidence to support the assumption that the rate of what is called profit is a real incentive. The only real incentive in all business is the income produced per person for the persons employed. If the income is above the average more are employed in that business.

BANKS AND INSURANCE BUSINESS ACCOUNTS IN 1929. TABLE IX.

No details are available for these industries from the census of production. The only information is taken from the estimates of national income. The employment account is therefore, the only account that can be reproduced. The income produced is the chief point of interest in these accounts. The income per person is shown to be 3,167 dollars. This is above the general level of incomes and suggests that the persons employed show a higher standard of efficiency than those in other industries. In considering this point it is important to realize that the higher standard is not determined by the individuals themselves but by the general public. The amount received must always be what other persons will give for the service created by the person employed. The persons employed are evidently considered to be of higher efficiency since the wages and salaries paid out are at higher rates than other industries.

When the accounts for banks are separated from insurance they show a higher percentage paid out as dividends. The dividends earned by insurance in 1929 were very low, partly due to the large amount paid to agents. This reduces the total paid out to the executive to the ordinary level. When banks are separated, dividends represent 41 per cent of the income produced. This high rate is due to the interest paid by other industries for the loan of capital during part of the year. The interest is really earned by the industries that borrow the capital. If it was possible to obtain the details, part of the income shown as earned by the banks should be credited to the industries that borrow the capital. All other industries would have to employ a larger subscribed capital except for the assistance given by the banks. Banks are therefore, an important part of the general organization of industry.

GOVERNMENT BUSINESS ACCOUNTS FOR 1929. TABLE X

Government, like the banks, is a definite part of the industrial organization that makes possible the subdivision of the work to be done. Unless the government is sufficiently strong to keep peace and order in a country, it would be impossible to carry on industry in its present form. It is of vital importance to every person who carries on a particular industry like coal mining to be able to obtain all the other things he requires. This can only be relied on with any certainty if there is a strong and good government. Every person who undertakes one small part of the necessities of life runs a great risk of not being able to obtain the other things he must have to sustain life. Government is therefore a very important factor in the general organization of industry.

Accounts show that the persons employed in the services rendered by government conform to the general laws that rule

in other industries. The wages and salaries are 77.2 per cent of the income paid out and the interest on loans is 22.8 per cent. The service rendered by the persons employed is an addition to the nation's income although paid out of taxes. The taxpayer receives the service in exchange for the service he hands over when paying taxes. Like all other cash transactions it is a pure exchange of services rendered by the two persons who make the exchange. Cash or money is only the measure that shows when the two sides of the exchange are equal.

The persons employed evidently render a service that is accepted as similar and equal to that of the average person employed in other industries because the earnings, of 2,150 dollars per person, are close to the average earnings.

TRANSPORTATION BUSINESS ACCOUNTS FOR 1929. TABLE XII

Transport forms the link between agriculture, mining and manufactures and the distributive industries. The chief point of interest in the accounts is the small share, 74.6 per cent, that is paid out in wages and salaries. Probably this is due to the large amount of capital employed and the high cost of replacement. The earnings per person employed show that the average income is normal. The large capital required makes the public service possible without giving a special power to charge specially high rates.

WHOLESALE DISTRIBUTION BUSINESS ACCOUNTS FOR 1929. TABLE XIII

Wholesale trading probably has a direct connection with the merchants who first discovered the advantage of business accounts. The wholesale trade is therefore directly associated with creating the idea that all trading was carried on to make profits. In this connection it is interesting to find that the percentage added by the

trade done is the lowest rate of all the businesses examined. The year 1929—which was a good trade year—shows a percentage of only 5.8 per cent, which compares with 260 per cent in agriculture. The control of prices by a state is shown to be a very uncertain advantage. The accounts show that the price obtained for the work done by the wholesale distributors is cut so fine that 1/10 of one per cent is of vital importance. If the amount added was increased to 5.9 per cent instead of 5.8 per cent the profit on the business would be increased by 65,000,000 dollars. It is therefore, not surprising that the income per person is shown to be slightly higher than other industries. A reduction in the prices to give a return of 5.7 per cent would reduce the income earned to the normal in the other industries. The share taken by the executive is normal at 20.9 per cent. This percentage would also be reduced if the prices were reduced by the fractional difference between 5.7 per cent and 5.8 per cent on the trade done. This very slight difference in price, of less than a $\frac{1}{4}$ of a cent on each dollar charged for the goods, proves the very close result obtained by the competition that is required to make all exchanges equal. It is extremely doubtful whether any government department could arrange to control prices with anything like such exactness.

RETAIL DISTRIBUTION BUSINESS ACCOUNTS FOR 1929. TABLE XIV

This industry is interesting because it shows a result similar to agriculture. The number of persons employed per individual business is 3.54 (see Table VIII). As in agriculture the small business is shown to be unsatisfactory, as the service to the community is poor. The money paid by the community for the service rendered gives a return to the persons employed of only 1,368 dollars. This sum is much below the normal rate in other industries. Re-

member that in all businesses the money received for the work done is the measure of what the community thinks is equal to the service. Judged by what the public pays for the service the small business is not a success. The share of the income taken by the executive is also out of proportion. This is probably due to the large proportion of the work that is done by the owner of the business. In larger businesses this work would be included in the money paid out as wages or salaries.

FULL EMPLOYMENT

"Unless we do change our whole way of thought about work, I do not think we shall ever escape from the appalling squirrel cage of economic confusion in which we have been madly turning for the last three centuries or so, the cage in which we landed ourselves by acquiescing in the social system based upon Envy & Avarice. A society in which consumption has to be artificially stimulated in order to keep production going is a society founded on trash and waste and such a society is a house built upon sand." (Dorothy L. Sayers *Why Work*).

The quotation from *Why Work* is given because it illustrates the common confusion of thought on economic questions. There is no question of Dorothy L. Sayers' sincerity or her power to write interesting books. The failure is in not being able to realize that "Envy & Avarice" are not true. Instead of envy the basis of society is appreciation of the work of others, and instead of avarice everyone lives by giving of their best that others may live. Instead of "inordinate desire of gain" the accounts show only fair and just exchange of equal quantities of the best that all can produce by their employment.

Gain, if any, is only the accident or exception that proves the rule. The exception has certainly been exaggerated by the old method of accounts, but is not a true picture of the real basis of society.

There has been so much mud stirred up by those who do not reach to full understanding that the pearl of truth is almost buried. To see clearly the pearl of fair and just dealing the mud must be washed away.

Because there happens to be, somewhere in the organization, an error that causes unemployment there is no reason to jump to the conclusion that the whole is hopelessly bad.

Money can certainly be cleared of all suggestion of evil. Money is the means by which the absolute "just and fair" is measured and nothing more. Money is only a measure and has no separate existence. The goods and service we all want are there and the money tells us the exact quality and quantity that is equal. Without money a fair deal or a fair wage cannot be determined. A pendulum ticking seconds gives us the means to measure length, and a man digging gold gives us the means to measure human energy. Length and money are both "mediums of exchange" because both show what is equal and fair.

Profit is another choice item for the mud slingers of which it is difficult to find a trace. It appears to be associated with the 20 per cent of every price that is the reward of organization. Whether it can be separated is not at all certain. Anyway it is only a very small fraction.

"Capitalism," according to some people, is just one sea of mud with hardly breathing space. The accounts show that capital has made all that is best in life possible. We should be unable to read Dorothy Sayers' delightful books if there were no capital. Ninety years ago books cost five times more than in 1929 and the income then was only a third. This vast difference in joy of living is the result of capital and nothing else.

This very important fact can only be definitely proved with the aid of money. Money is not easy to understand but it is a

great help to clear thinking. Exact measurement is one of the greatest aids to the understanding of how the universe works and all the other things around us. Without money, accounts of any kind are impossible. Without accounts the economic life is a hopeless maze. Without accounts it is impossible to decide exactly what causes unemployment. We know it happens and that is about all we do know. In 1910 it was decided to cure unemployment by labor exchanges. The accounts show that they have not made the slightest difference. In 1921 insurance against unemployment was started to prevent the evil effect. The effect of insurance is 7 per cent less employment. (Employment Policy White Paper Cmd 6527, Appendix I.) This too is proved by the accounts and the use of money.

There is great danger of accepting the quite simple things in life at their face value without careful consideration. A simple question—How long does it take to make a loaf of bread? About an hour to bake—was the answer given when it was asked. The correct answer is about two years. The work of an endless number of people doing their very best for others for two years. The result—a four pound loaf selling at 8½ pence.

The only possible way to know what the correct price should be is by accounts. Just for one moment try to imagine how the price is to be fixed without some exact record. The land must be cultivated in the autumn of 1943 for bread sold in 1945. The harvest will be in the autumn of 1944. Then it takes exactly twelve months to turn the wheat into flour, otherwise much machinery would have to be idle part of the year. There must be exactly the right number of millers to make the flour in the right quantity exactly to provide the right number of loaves each day. This is not a simple calculation, but is correctly measured as is shown by the national accounts.

The accounts require a most exact measure so that the slightest change in method of production is shown. Unless this exact measure can be obtained there can be no correct price. The correct price simply shows what is fair for us to give for the two years' work done by the farmer, the miller, and the baker. The emphasis is on the word "give." No other word really expresses exactly what takes place. There is only one way to obtain the necessary money to buy a loaf of bread and that is by employment. Without some form of employment there is no money. When a loaf of bread changes hands it means giving the result of one kind of employment for another kind of employment, and nothing else. All this is shown by the accounts because they exactly balance. The sales are always exactly equal to the sum paid out as wages, salaries, and executives' remuneration. There is never a penny more or a penny less.

This exact balance is maintained by competition. The price fixed by this competition must be exactly correct or the whole would not balance. In the circumstances it seems improbable that any better method of price-fixing can be devised. In fact, there is not the slightest ground for any complaint. The accounts, therefore, prove that all attempts at price control by a government department are an absolute waste of time. Free unrestrained competition under normal conditions gives exactly what we all wish. The price gives what is exactly fair, equal, and just. A slight variation above or below the exactly equal price may occur in the cross currents of competition. When this does happen it immediately reacts on the quantity produced until the price returns to the exactly equal. This arrangement is shown in action by the change in area planted under wheat or other crop each year. (See Table XV.)

The action of the price in the control of production makes the suggested planning of

production unsatisfactory, if not altogether a waste of effort. In fact, it is shown by the attempt made in Russia to control both price and production that it is impossible to find what is equal and fair. Unless both the price and the production are determined by competition the result is most unsatisfactory. If the wage paid and the price fixed do not exactly agree there must be a surplus shown by the accounts. If the worker receives £4. per week and the price fixed for the product allows it to sell for a total of £3.10.0. there appears to be a saving of 10/-. The worker would have 10/- left, but it is quite worthless because it represents no part of the production. If the 10/- is deposited in a savings bank it is still worthless. The only way that that 10/- can again be brought into currency is through taxation and that means part of the *next* production of goods.

It is therefore a confusion of thought to suggest to the wage earner that he has made a saving. Instead it is just a waste of time and currency and means nothing in the end. The wage is really £3. 10. 0. not £4. because the worker produced £3. 10. 0. worth of goods and that is all he can possibly have. The accounts show why the goods sell for £3. 10. 0. because they take the same time to produce as £3. 10. 0. does in the gold mine and therefore are equal.

The accounts, therefore, prove that price fixed by competition must exactly balance with the amounts paid out in the form of wages, salaries, and executives' remuneration. The price is automatic; the natural question is: Are all the other factors automatic? The answer is that under part employment the payments out are automatic but under full employment they are not automatic. The price is automatic because it is fixed by competition. The same is true of the shares into which income is divided, wages, salaries and executives' remuneration, when there is competition. Under normal conditions the shares are automatic

because part employment means the necessary competition.

War conditions in the United Kingdom show what happens when full employment is the rule. The wage share and the other shares cannot be determined because there is no competition to fix them when employment is full. Competition can only exist if some persons are unable to get employment. Since 1940 we have had full employment. The result is shown by the national income estimates for 1938 and 1944.

U. K. NATIONAL INCOME

| | <i>Wages & Salaries millions</i> | <i>%</i> | <i>Interest & Dividends millions</i> | <i>%</i> | <i>Total income millions</i> |
|---------------------------|--|----------|--|----------|--------------------------------------|
| 1938 Part Employment..... | £2,913 | 63.1 | £1,706 | 36.9 | £4,619 |
| 1944 Full Employment..... | £5,574 | 66.8 | £2,760 | 33.2 | £8,334 |

This estimate of income shows a gain of 3.7 per cent for wages and salaries. The sum paid out has increased by 91 per cent. The accounts show that the whole income must balance. Therefore, the actual wages and salaries are a larger share of a 91 per cent larger income. Under war conditions it is well known that all the goods we require for normal living are in short supply. The actual wage and salary in 1944, is, therefore, far below the standard of 1938 because prices have risen more than the cash wages. The 3.7 per cent gain through full employment is modified by the corresponding rise in prices. This fact shows that under war conditions wages rise in cash but are compensated by an equal rise in price.

By the accounts it is proved that in normal times the price is fixed by competition at a level that exactly corresponds with the gold production. This means that any change in the share of that fixed cash income must mean a reduction of other shares. It is this fact that causes the difficulty which prevents full employment. There must be and always is far more work to be done than can be done by the whole

labor force working full time and long hours. There is not the slightest evidence of any actual shortage of work to be done. The sole and only reason for the constant shortage of employment is the failure of any other means except competition to regulate the wage share.

The chief difficulty created by full employment is seldom realized although it is a constant difficulty in all business undertakings. The difficulty can only be fully appreciated by accounts drawn up to show the probable result of full employment be-

ing applied to a particular industry. This arrangement for America is shown in Table XVI.

Manufacturing is a very important industry in which the difficulty of part employment often occurs. In 1929, 10,331,000 persons were employed out of a possible number of 11,651,368 whose usual occupation was part of this industry. Of these persons, only a small number were unemployed the whole year. It is therefore probable that the better way to show the problem is to refer to the unemployed as the time lost by persons included in the total number that would wish to make full time. If the average hours are 2,000 hours per year per person then the problem is that 1,320,368 persons lose 2,000 hours each, or an average of 226 hours lost by each of 11,651,368 persons who are employed part of their time in the industry.

The production per person in manufactures in 1929 is estimated at 1,795 dollars per person. The amount added to the price of the goods actually produced by each person, whatever the quantity may be, is

therefore $\frac{1854.6 \text{ dollars}}{x \text{ goods}}$. If x represents

1,033 goods that is equal to the number of persons actually employed, the amount added to the price by manufacture is 1,795 dollars each unit produced. If by working full time they produce 12.8 per cent more

goods the calculation is $\frac{1854.6 \text{ dollars}}{1.165 \text{ goods}}$ and

the price added is 1,592 dollars each.

The price of gold being fixed there is no difference made in the price per ounce by working short time. In other industries the working of short time raises the price as shown above. The point at which the competition fixing prices and the competition fixing wages gives the usual result is about 13 per cent unemployed or time lost. If full time is worked the actual production is increased but the price and the cash earnings per person are reduced. Therefore, so long as practically all industry is based on a wage calculated at a sum per unit of production, the immediate result of full time is a loss of cash income to the executive. The alternative is a reduction of wage rates per hour. Both alternatives appear to be unsatisfactory to the persons concerned. Actually full time worked would be a real gain to all the persons concerned as the production is 12.8 per cent larger and every person's share is 12.8 per cent larger. The difficulty is only imaginary. Money has many advantages, the chief being the possibility of presenting exact accounts. The only drawback is that the exact way in which money acts is not clearly understood and demonstrated.

This calculation may give the impression that it does not agree with the suggestion that price always gives an equal exchange. The gold miner of equal ability with the persons employed in manufactures works full time. Therefore his earnings are 1,592 dollars instead of 1,795 dollars. The gold miner is at a disadvantage in this respect because he is compelled to pay a slightly higher price than is exactly equal

because the price of his production is fixed. This difficulty although real is not important because gold mining is high skilled work and the normal earnings much above those in other mining. (See Table IV.) The amount may be adjusted by giving the gold miner a slightly higher standard because he works full time. This point can only be decided by experiments in full time being worked by all.

The only way to get a clear view of how money is used is to study accounts. Since the introduction of accounts the executive or employer has realized that the result of any business can be definitely known only after the accounts are completed. The share the employer takes is entirely dependent on the result shown in those accounts. Whether the result is good or bad it must be accepted.

The same is also true for the sum that can be paid out as wages. Unfortunately, this fact, which is quite beyond dispute or question, is never realized by the persons employed. When, therefore, full time is worked and the wage rate must be reduced the fact is never accepted. The reaction is a refusal to accept the reduction. Refusal means unemployment.

The alternative is to understand exactly how money works and accept the result shown by the accounts. This arrangement was partly realized by the coal trade in 1939. An agreement was reached between the employers and workers to pay and to accept as wages 85 per cent of the income produced. Unfortunately the full implication of this agreement was not understood, since a basic or minimum wage was to be the starting point. If the income is to be shared in such a way as to bring full employment all the time, complete faith in the accounts must be accepted by both parties. The exact result of the accounts must be accepted; there can be no alternative. If this is agreed there is only one way in which wages and income generally can

be reduced, and that is by a lower production. Any change in price is a question of the correct measurement by money. Whether the money received is less or more, the real income can only be altered by a decrease or increase in the actual commodity (coal in this case) produced.

If these facts are to be clearly understood the accounts must be arranged in a similar form to the accounts that illustrate these notes. The accounts too must be presented to both sides to the agreement. It is only through perfect understanding and good faith on both sides that the unexpected results may be accepted. If by some change in gold production the gold produced per person is less, all wages in cash would be less. Such an accident might upset the agreement unless it was very well

understood that the accounts were perfectly drawn up.

If each industry agreed to a percentage share of the income produced, wages and salaries would be paid each week as a payment on account. The correct total payment would be completed at the end of the accounting period in the form of a percentage increase on the amount already paid.

When wages are arranged as an exact share of the result obtained by the work done there is no need for competition to fix the wage rate. The competition being unnecessary there is no advantage to be gained by working short time to raise prices. Therefore, to arrange accounts in the way suggested is the best method to show the result of any business, and also the accounts for full employment.

APPENDIX

TABLE I

Income produced and paid out by each industry: 1929

| | <i>Income added by each industry</i> | <i>Percentage of the income produced by each industry</i> | | <i>Total income produced</i> |
|------------------------------|--|---|--------------------|----------------------------------|
| | <i>dollars in millions</i> | <i>per industry %</i> | <i>total %</i> | <i>dollars in millions</i> |
| Agriculture | 8,710 | 11.09 | 11.09 | 8,710 |
| Mines and Quarries | 1,598 | 2.03 | 13.12 | 10,308 |
| Construction | 3,274 | 4.17 | 17.29 | 13,582 |
| Government | 6,456 | 8.22 | 25.51 | 20,038 |
| Manufactures | 18,546 | 23.61 | 49.12 | 38,584 |
| Banks and Insurance | 2,666 | 3.39 | 52.51 | 41,250 |
| Transport | 6,660 | 8.98 | 60.99 | 47,910 |
| Distribution Wholesale | 3,806 | 4.84 | 65.83 | 51,716 |
| Retail | 7,480 | 9.52 | 75.35 | 59,196 |
| Power and Light | 1,306 | 1.67 | 77.02 | 60,502 |
| Communications | 912 | 1.16 | 78.18 | 61,414 |
| Service | 8,480 | 10.80 | 88.98 | 69,894 |
| Real Estate | 5,845 | 7.42 | 96.40 | 75,739 |
| Other | 2,827 | 3.60 | 100.00 | 78,566 |

TABLE II
Agriculture Business Accounts
(U.S.A. 1929)

TRADE ACCOUNT

| | % added by employment | Dollars thousands | Dr. Dollars thousands | Cr. Dollars thousands |
|-------------------------------------|--------------------------|----------------------|-----------------------------|-----------------------------|
| To Stock | | | | |
| Purchases and Expenses..... | | 1,949,000 | | |
| Taxes..... | | 489,000 | | |
| Depreciation..... | | 912,000 | | |
| | | 3,350,000 | | |
| Less Stock..... | | — | 3,350,000 | |
| To Balance forward..... | 260.0 | | 8,710,000 | |
| By Sales of Crops and Livestock.... | | | | 12,060,000 |
| | | | 12,060,000 | 12,060,000 |

EMPLOYMENT ACCOUNT

| | % share of income | Dollars thousands | | |
|---------------------------|----------------------|----------------------|-----------|-----------|
| To Wages hired labor..... | | 1,313,000 | | |
| Farmer and Family..... | 80.7 | 5,716,000 | 7,029,000 | |
| Interest..... | | 571,000 | | |
| Rent..... | 19.3 | 1,110,000 | 1,681,000 | |
| By Income produced..... | 100.0 | | | 8,170,000 |
| | | | 8,710,000 | 8,710,000 |

Persons employed 7,910,000; average income per person 1,101 dollars, unpaid family labor not included.

TABLE III
Mines and Quarries Business Accounts
(U.S.A. 1929)

TRADE ACCOUNT

| | % added by employment | Dollars thousands | Dr. Dollars thousands | Cr. Dollars thousands |
|-------------------------|--------------------------|----------------------|-----------------------------|-----------------------------|
| To Stock | | | | |
| Purchases..... | | 17,000 | | |
| Contract work..... | | 294,000 | | |
| Supplies..... | | 49,000 | | |
| Fuel..... | | 72,000 | | |
| Electricity..... | | 439,000 | | |
| Other exps..... | | | | |
| Depreciation..... | | | | |
| Discount allowed..... | | | | |
| | | 871,000 | | |
| Less Stock..... | | — | 871,000 | |
| To Balance forward..... | 154.5 | | 1,598,000 | |
| By Sales..... | | 2,393,000 | | 2,469,000 |
| Development..... | | 76,000 | | |
| | | | 2,469,000 | 2,469,000 |

EMPLOYMENT ACCOUNT

| | <i>% share of income</i> | | | |
|----------------------------------|------------------------------|----------------|------------------|------------------|
| To Wages..... | | 1,092,000 | | |
| Salaries..... | 77.0 | <u>138,000</u> | 1,230,000 | |
| To Executive, Dividend, etc..... | 23.0 | | 368,000 | |
| By Income produced..... | <u>100.0</u> | | | 1,598,000 |
| | | | <u>1,598,000</u> | <u>1,598,000</u> |

Persons employed 1,044,000; average income per person 1,530 dollars.

TABLE IV
Gold Mines Business Accounts
(U.S.A. 1929)

TRADE ACCOUNT

| | <i>% added by employment</i> | <i>Dollars thousands</i> | <i>Dr. Dollars thousands</i> | <i>Cr. Dollars thousands</i> |
|-------------------------|----------------------------------|------------------------------|--------------------------------------|--------------------------------------|
| To Stock | | | | |
| Expenses..... | | 10,295,799 | | |
| Contract..... | | 557,856 | | |
| Fuel..... | | 437,602 | | |
| Electricity..... | | <u>1,436,555</u> | | |
| | | 12,727,812 | | |
| Less Stock..... | | | 12,727,812 | |
| To Balance forward..... | 98.3 | | 12,516,603 | |
| By Development..... | | | | 3,815,000 |
| By Sales..... | | | | <u>21,429,415</u> |
| | | | <u>25,244,415</u> | <u>25,244,415</u> |

EMPLOYMENT ACCOUNT

| | <i>% share of income</i> | | | |
|-------------------------------|------------------------------|--|-------------------|-------------------|
| To Wages and Salaries..... | 88.0 | | 11,016,603 | |
| Executive, Dividend, etc..... | 12.0 | | 1,500,000 | |
| By Income produced..... | <u>100.0</u> | | | 12,516,603 |
| | | | <u>12,516,603</u> | <u>12,516,603</u> |

Persons employed 6,571; average income per person 1,903 dollars.

TABLE V
Construction Business Accounts
(U.S.A. 1929)

TRADE ACCOUNT

| | <i>% added by employment</i> | <i>Dollars thousands</i> | <i>Dr. Dollars thousands</i> | <i>Cr. Dollars thousands</i> |
|-------------------------|----------------------------------|------------------------------|--------------------------------------|--------------------------------------|
| To Stock | | | | |
| Purchases..... | | 2,056,000 | | |
| Expenses..... | | 920,000 | | |
| Taxes..... | | | | |
| Discount allowed..... | | | | |
| | | <u>2,976,000</u> | | |
| Less Stock..... | | | 2,976,000 | |
| To Balance forward..... | 110.0 | | 3,274,000 | |
| By Sales..... | | | | 6,250,000 |
| | | | <u>6,250,000</u> | <u>6,250,000</u> |

EMPLOYMENT ACCOUNT

| | <i>% share of income</i> | | |
|--------------------------------|------------------------------|------------------|------------------|
| To Wages | | | |
| Salaries | 82.0 | 2,685,000 | |
| Executive, Dividend, etc. | 18.0 | 589,000 | |
| By Income produced | 100.0 | | 3,274,000 |
| | | <u>3,274,000</u> | <u>3,274,000</u> |

Persons employed 1,604,000; average income per person 2,041 dollars.

TABLE VI
Manufacturers Business Accounts
(U.S.A. 1929)

TRADE ACCOUNT

| | <i>% added by employment</i> | <i>Dollars thousands</i> | <i>Dr. Dollars thousands</i> | <i>Cr. Dollars thousands</i> |
|--------------------------|----------------------------------|------------------------------|--------------------------------------|--------------------------------------|
| To Stock | | | | |
| Purchases | | 36,684,000 | | |
| Fuel | | 1,866,000 | | |
| Taxes | | | | |
| Expenses | | 13,339,000 | | |
| Depreciation | | | | |
| Discount allowed | | | | |
| | | <u>51,889,000</u> | | |
| Less Stock | | | 51,889,000 | |
| To Balance forward | 35.7 | | 18,546,000 | |
| By Sales | | | | 70,435,000 |
| | | | <u>70,435,000</u> | <u>70,435,000</u> |

EMPLOYMENT ACCOUNT

| | <i>% share of income</i> | | |
|-------------------------------|------------------------------|-------------------|-------------------|
| To Wages | | 11,621,000 | |
| Salaries | 82.0 | 3,595,000 | 15,216,000 |
| Executive, Dividend etc. | 18.0 | | 3,330,000 |
| By Income produced | 100.0 | | 18,546,000 |
| | | <u>18,546,000</u> | <u>18,546,000</u> |

Persons employed 10,331,000; average income per person 1,795 dollars.

TABLE VII
National Income U.S.A.
Estimated from the Census of Manufactures for the years 1849 to 1919

| Year | Persons Employed (Thousands) | | Income (in millions of dollars) | | | Income per Person (Dollars) | | Price of Gold | Income per person measured in oz. of gold |
|------|---------------------------------|------------|------------------------------------|--------------------|------------|--------------------------------|---------------------------|---------------|---|
| | Wage and Salary Earners | Executives | Total | Wages and Salaries | Executives | Grand Total | Average Income per Person | | |
| 1849 | 5,495* | 1,575 | 7,070 | 1,121 | 604 | 1,725 | 204 | 244 | 11.8 |
| 1859 | 8,000* | 2,294 | 10,294 | 2,073 | 1,116 | 3,189 | 259 | 310 | 15.0 |
| 1869 | 8,928 | 2,560 | 11,488 | 2,973 | 1,601 | 4,574 | 333 | 398 | 19.3 |
| 1879 | 15,817 | 4,535 | 20,352 | 6,026 | 3,245 | 9,271 | 381 | 456 | 22.0 |
| 1889 | 16,644 | 4,778 | 21,422 | 8,156 | 4,391 | 12,547 | 490 | 585 | 28.3 |
| 1899 | 20,757 | 5,952 | 26,709 | 9,776 | 5,264 | 15,040 | 471 | 563 | 27.3 |
| 1909 | 27,252 | 7,812 | 35,064 | 16,354 | 8,805 | 25,159 | 601 | 718 | 34.7 |
| 1914 | 28,056 | 8,044 | 36,100 | 18,826 | 10,138 | 28,964 | 671 | 802 | 38.8 |
| 1919 | 29,711 | 8,519 | 38,230 | 37,971 | 22,300 | 60,271 | 1,278 | 1,577 | 76.2 |
| 1921 | 30,740 | 8,815 | 39,555 | 40,884 | 22,015 | 62,899 | 1,330 | 1,590 | 76.9 |
| 1923 | 31,771 | 9,111 | 40,882 | 43,781 | 23,576 | 67,357 | 1,378 | 1,648 | 79.7 |
| 1925 | 32,802 | 9,407 | 42,209 | 46,545 | 25,062 | 71,607 | 1,419 | 1,697 | 82.0 |
| 1927 | 33,832 | 9,703 | 43,535 | 49,361 | 26,580 | 75,941 | 1,459 | 1,744 | 84.4 |
| 1929 | 34,863 | 9,996 | 44,859 | 51,509 | 27,047 | 78,556 | 1,511 | 1,751 | 84.7 |
| 1930 | 32,857 | 9,987 | 42,844 | 47,551 | 25,739 | 73,290 | 1,447 | 1,711 | 82.7 |
| 1931 | 29,427 | 10,012 | 39,439 | 40,188 | 21,844 | 62,032 | 1,366 | 1,573 | 76.0 |
| 1932 | 26,022 | 10,059 | 36,081 | 31,563 | 17,461 | 49,024 | 1,213 | 1,354 | 65.7 |
| 1933 | 25,973 | 10,257 | 36,230 | 29,596 | 15,721 | 45,317 | 1,139 | 1,251 | 60.5 |
| 1934 | 28,043 | 10,536 | 38,579 | 34,051 | 17,459 | 51,510 | 1,214 | 1,335 | 64.6 |
| 1935 | 29,034 | 10,741 | 39,775 | 36,679 | 18,458 | 55,137 | 1,263 | 1,386 | 35.00 39.6 |
| 1936 | 30,833 | 10,870 | 41,703 | 41,906 | 20,680 | 62,586 | 1,359 | 1,501 | 42.9 |
| 1937 | 32,546 | 10,921 | 43,467 | 46,728 | 22,602 | 69,330 | 1,436 | 1,595 | 45.6 |
| 1938 | 31,239 | 10,920 | 42,159 | 44,948 | 19,470 | 64,418 | 1,439 | 1,528 | 43.7 |
| 1939 | 32,419 | 10,950 | 43,369 | 48,128 | 22,546 | 70,674 | 1,485 | 1,630 | 46.6 |
| 1940 | 35,648 | 10,950 | 46,598 | 51,816 | 24,219 | 76,035 | 1,450 | 1,632 | 46.6 |

* Including working slaves.

TABLE VIII
Persons Employed per Individual Business

| | Number employed | Income per person | Number of businesses | Average per business |
|-------------------------|-----------------|-------------------|----------------------|----------------------|
| Agriculture..... | 7,910,000 | \$1,101 | 6,288,648 | 1.26 |
| Mines and Quarries..... | 1,044,000 | 1,530 | 12,506 | 83.50 |
| Construction..... | 1,604,000 | 2,041 | 30,597 | 52.40 |
| Manufactures..... | 10,331,000 | 1,795 | 210,959 | 49.00 |
| Distribution | | | | |
| Wholesale..... | 1,695,812 | 2,245 | 169,702 | 10.55 |
| Retail..... | 5,467,430 | 1,368 | 1,543,158 | 3.54 |

TABLE IX
Banks and Insurance Business Accounts
(U.S.A. 1929)

| EMPLOYMENT ACCOUNT | | | |
|------------------------------|--------------------------|----------------------|-----------------------------|
| | % added by employment | Dollars thousands | Dr. Dollars thousands |
| To Wages and Salaries..... | 79.9 | | 2,129,713 |
| Executive, Dividend etc..... | 20.1 | | 536,420 |
| By Income Produced..... | 100.0 | | 2,666,133 |
| | | | 2,666,133 |

Persons employed 841,953; average income per person 3,167 dollars.

TABLE X
Government Business Accounts
(U.S.A. 1929)

| EMPLOYMENT ACCOUNT | | | |
|-------------------------|--------------------------|----------------------|-----------------------------|
| | % added by employment | Dollars thousands | Dr. Dollars thousands |
| To Wages..... | | 580,846 | |
| Salaries..... | 77.2 | 4,403,046 | 4,983,892 |
| To Interest..... | 22.8 | | 1,472,396 |
| By Income produced..... | 100.0 | | 6,456,288 |
| | | | 6,456,288 |

Persons employed 3,003,272; average income per person 2,150 dollars.

TABLE XI
Average Prices 1849 and 1929, United Kingdom

| | | 1849 | 1929 | 1849 plus 88% |
|---------------|----------------|------|-------|------------------|
| Wheat English | s&d per qr. | 44/3 | 42/2 | 83/2 |
| Flour | s per 280 lbs. | 41 | 38½ | 77/- |
| Barley | s&d per qr. | 27/9 | 35/5 | 52/2 |
| Oats | s&d per qr. | 17/6 | 24/7 | 32/10 |
| Potatoes | s per ton | 95 | 111 | 183 |
| Beef mid | d per 8 lbs. | 32 | 66 | 60 |
| Mutton mid | d per 8 lbs. | 38 | 83 | 71 |
| Butter | s per cwt. | 88 | 180 | 165/6 |
| Sugar R.W.I. | s per cwt. | 22 | 11½ | 41½ |
| Coffee Rio | s per cwt. | 36 | 75 | 67 |
| Tea Imp. | d per lb. | 13 | 17 | 24 |
| Iron | s&d per ton | 45/6 | 74/- | 85/6 |
| Copper | £ per ton | 84 | 75½ | 157½ |
| Coal. Exp. | s per ton | 7.69 | 16.13 | 14.48 |
| Cotton mid | d per lb. | 5.12 | 10.26 | 9.63 |
| Wool Merino | d per lb. | 16 | 35½ | 30 |
| Silk | s per lb. | 15 | 14 | 28 |
| Timber Imp. | s per load | 58 | 45 | 109 |
| Silver | d per oz. | 60 | 24½ | 113 |

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TABLE XII

Transportation Business Accounts
(U.S.A. 1929)

| EMPLOYMENT ACCOUNT | | | |
|------------------------------|--------------------------|----------------------|-----------|
| | % added by employment | Dollars thousands | |
| To Wages and Salaries..... | 74.6 | 4,970,422 | |
| Executive, Dividend etc..... | 25.4 | 1,689,344 | |
| By Income produced..... | 100.0 | | 6,659,766 |
| | | 6,659,766 | 6,659,766 |

Persons employed 3,073,073; average income per person 2,167 dollars.

TABLE XIII

Wholesale Distribution Business Accounts
(U.S.A. 1929)

| TRADE ACCOUNT | | | |
|-----------------------------------|--------------------------|----------------------|------------|
| | % added by employment | Dollars thousands | |
| To Stock | | | |
| Purchases..... | | 59,283,361 | |
| Expenses..... | | 6,135,625 | |
| Taxes..... | | 66,537 | |
| Depreciation..... | | | |
| Discount allowed less received... | | | |
| | | 65,485,523 | |
| Less Stock..... | | | 65,485,523 |
| To Balance forward..... | 5.8 | 3,806,477 | |
| By Sales..... | | | 69,292,000 |
| | | 69,292,000 | 69,292,000 |

EMPLOYMENT ACCOUNT

| | % of share | | |
|-----------------------------------|---------------|-----------|-----------|
| To Wages and Salaries..... | 79.1 | 3,012,125 | |
| Executive, Dividends etc..... | 20.9 | 794,352 | |
| By income produced by business... | 100.0 | | 2,806,477 |
| | | 3,806,477 | 3,806,477 |

Persons employed 1,695,812; average income per person 2,245 dollars.

TABLE XIV
Retail Distribution Business Accounts
(U.S.A. 1929)

| TRADE ACCOUNT | | | | |
|-----------------------|--------------------------|----------------------|-----------------------------|-----------------------------|
| | % added by employment | Dollars thousands | Dr. Dollars thousands | Cr. Dollars thousands |
| To Stock | | | | |
| Purchases | | | | |
| Expenses | | | | |
| Depreciation etc..... | | | | |
| | | 41,635,278 | | |
| Less Stock | | | 41,635,278 | |
| To Balance..... | 18.0 | | 7,749,722 | |
| By Sales..... | | | | 49,115,000 |
| | | | 49,115,000 | 49,115,000 |

EMPLOYMENT ACCOUNT

| | % share of income | | | |
|------------------------------|----------------------|-----------|-----------|-----------|
| To Wages and Salaries..... | 69.5 | 5,197,212 | | |
| Executive, Dividend etc..... | 30.5 | 2,282,510 | 7,479,722 | |
| By Income produced..... | 100.0 | | | 7,479,722 |
| | | | 7,479,722 | 7,479,722 |

Persons employed 5,467,430; average income per person 1,368 dollars.

TABLE XV
Percentage Change in Area Planted Caused by Change in Income per Acre
(WHEAT PRODUCTION U.S.A.)

| Season | Crop per acre | Price per BU cents | Dollar income per acre | Percentage increase of income | Percentage change of area planted season of 1941-42 | |
|-----------|------------------|--------------------------|------------------------------|-------------------------------------|---|--------|
| | | | | | Autumn | Spring |
| 1939-1940 | 14.1 Bu. | 93.7 | 13.21 | | | |
| 1940-1941 | 15.3 Bu. | 88.8 | 13.58 | +3.0 | +10.2 | -6.3 |

The reaction in the area planted in 1941-42 is not quite exact. The increase in the autumn is too large and the spring reaction not quite sufficient. The general reaction to the income produced per acre though is clearly indicated.

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TABLE XVI
Manufactures Business Accounts
(U.S.A. 1929)
UNDER FULL EMPLOYMENT

| | TRADE ACCOUNT | | | |
|-------------------------|--------------------------|----------------------|-----------------------------|-----------------------------|
| | % added by employment | Dollars thousands | Dr. Dollars thousands | Cr. Dollars thousands |
| To Stock | | | | |
| Purchases..... | | 36,684,000 | | |
| Fuel..... | | 1,866,000 | | |
| Taxes..... | | | | |
| Expenses..... | | 13,339,000 | | |
| Depreciation..... | | | | |
| Discount received..... | | | | |
| | | <hr/> | | |
| | | 51,889,000 | | |
| Less Stock..... | | | 51,889,000 | |
| To Balance forward..... | 35.7 | | 18,546,000 | |
| By Sales..... | | | | 70,435,000 |
| | | | <hr/> | <hr/> |
| | | | 70,435,000 | 70,435,000 |

| | EMPLOYMENT ACCOUNT | | | |
|-------------------------|----------------------|------------|------------|------------|
| | % share of income | | | |
| To Wages..... | | 11,621,000 | | |
| Salaries..... | 82.0 | 3,595,000 | 15,216,000 | |
| Executive..... | 18.0 | | 3,330,000 | |
| | | <hr/> | | |
| By Income produced..... | 100.0 | | | 18,546,000 |
| | | | <hr/> | <hr/> |
| | | | 18,546,000 | 18,546,000 |

Persons Employed 10,331,000
Persons Unemployed 1,320,368

Full Employment 11,651,368 Average income per person 1,592 dollars.

THE ACCOUNTING EXCHANGE

A. C. LITTLETON

IF AN EXAMPLE were sought from accounting to show that living language changes, the word "surplus" would be a good one to use. It was not originally a bookkeeping term, having come rather late into accounting from earlier use in law. Its antecedent in bookkeeping was "profit." But before the noun "surplus" became as prominent in accounting as is the noun "profit," it passed through a long chrysalid stage in law as an adjective in the phrase "surplus profits."

"*Surplus*" Terminology. Why was a modifying adjective "surplus" added to the noun, "profits?" Why was the word "profits" later dropped from the phrase, leaving "surplus" to stand alone as a noun? Why were adjectives subsequently added to the new noun to produce the modern term "earned surplus"? Perhaps the answers cannot be read from a few examples of changing usage; but it may be interesting to look at some samples, nevertheless.

A sample of corporation charters granted by American state legislatures between 1822 and 1869 shows that in most cases no specific mention was made of the source from which dividends could be declared, presumably relying on the common law to control the matter. A few, however, specifically refer to "clear profits," "actual profits"; and a few more say that profits available for dividends are determined by the directors "after setting aside a surplus fund." In New York, a statute of 1825 declared it unlawful to make any dividend except from surplus profits. This statute was entitled "An act to prevent fraudulent bankruptcy by incorporated companies." The theory was that a dividend not from profits would work a fraud on the creditors by conveying to shareholders an amount of

property which should be kept to pay creditors.

An earlier example shows a similar lack of a sharp distinction between profit and surplus. The charter of the Bank of the United States (1790) provided that dividends could come only from profits, and that the directors lay before the stockholders a "statement of debts . . . and of the surplus profits if any after deducting losses." A by-law provided that assenting directors would be personally liable "for the amount of the surplus so divided," if dividends exceeded the profit.

The clearest meaning in these various examples is that reflected in the phrases "clear profit," "actual profits." The intention plainly was to specify profits clear or net of expenses and losses, and to exclude from the dividend base unreal credits of every kind since these would not be "actual." These distinctions are more important now than they ever were; but modern terminology sometimes still fails to make them clear.

At about this same time charters and statutes also used the terms "surplus fund" and "surplus profits." "Surplus" in the first phrase is obviously connected with the idea of profit assets held back from dividends, presumably because the assets were needed for current operations, or perhaps for future dividends. In the second phrase, the adjective "surplus" probably was intended to mean profits over and above expenses and losses, that is, profits not needed to cover revenue charges. In a sense, therefore, the phraseology seems aimed at correcting the same bad practices that presumably created the need for the phrases "clear profit," and "actual profit." This intention seems present, for example, in the charter of the United

States Bank, in which deduction of losses is specifically mentioned in the same clause that names profits as the dividend base. In the by-law of the bank, surplus seems to be used as a noun, but actually it is still an adjective with the related noun "profits" being understood from the context without repetition.

There is a reference in *Hunt's Merchants Magazine* to the report of the Liverpool and Manchester Railway of 1843, in which it was said that the net profit (as the difference between receipts and expenses) was increased "by the addition of an undivided surplus." If all profits (except those specially earmarked) were customarily distributed, it would be quite natural to think of the dividend base (profit) as being augmented from an occasional carry-over from the past. We would now say it the other way—increase the prior surplus by the addition of current net profit.

In the same year the other usage was also reflected. In a statistical statement about the Eastern Railroad it was said that the old surplus reserve fund was a certain amount and that the surplus fund was increased by a certain amount as a result of the year's operations. In 1845 it was said of the New York and Erie Railroad that its eastern division earned "a considerable surplus beyond the current expenses." The same magazine in 1847 said that the Reading Railway, after paying all expenses, had a surplus of net earnings of a certain amount. And of the South Carolina Railroad it was said that one item in the auditor's property statement was surplus income (probably meaning undivided profits).

In these examples the word surplus has been used to refer to (1) an undivided prior balance, (2) a reserve fund, (3) an excess of revenue above expenses, (4) an income item in a property statement. Yet, in spite of an apparent diversity of usage, the con-

notation never gets far away from that of profits, though the profits concerned may be those related to current expenses, to a prior carry-forward, or to the present dividend base. Thus the term "surplus" at about 1850 is not yet linked directly to assets; but the phrase "surplus assets" is not far away.

After the middle of the nineteenth century the term "surplus assets" appears in court cases, especially cases in Great Britain. In 1869 "whole surplus" was used in referring to assets of an enterprise in dissolution. Surplus assets, it was said, must be distributed pro rata. In 1889 and in 1894 the courts referred to dividing the surplus after payment of liquidation expenses. In 1896 a court tried to link the two terms by saying that surplus assets means surplus profits (as a synonym?); and then explained that surplus assets are those remaining after payment of debts and recoupment of capital (*New Transvaal Co.* 2 Ch. 750, 1896).

According to this last concept, profit will be expressed by the assets remaining after an enterprise liquidates debts and capital. And since these profits stand in the form of assets, surplus assets are surplus profits. Presumably by transfer of meaning, the same identity of terms would carry over to a going concern; thus surplus asset-value (however derived) would become distributable as surplus profits.

Surplus in the Law. But the British courts were too alert to fall into that logical trap. They have ruled as follows: In 1870 (*Salisbury v. Metropolitan Railway*, 22 L. T. 829) an unrealized increase in the value of land is not profit; in 1894 (*Vernier v. the General and Commercial Investment Trust*, 2 Ch. 239) an unrealized value decrease due to fluctuating prices of fixed assets is not loss; in 1899 (*National Bank of Wales*, 2 Ch. 629) a surplus upon the valuation of assets is not necessarily profit; in 1918 (*Ammonia Soda*

Co., 1 Ch. 266) write-up of fixed assets could not create a surplus to meet a deficit on trading.

American courts have used the term "surplus" in various ways. A sample of 70 cases (one-third being dated between 1861 and 1889) shows the word used as an adjective (31 cases), as a noun (23 cases), as a noun modified by an adjective (16 cases). There is some tendency for the use as an adjective to decrease as the years pass, and for the use as a noun to increase.

As an adjective the most frequent use has the form "surplus profits," with "surplus earnings" following closely. In a few instances, mostly early cases, "surplus fund" is referred to.

When "surplus" is used alone as a noun, the possibilities for confused meaning grow greater since the word seems to refer sometimes to profits, sometimes to assets. In *Williams v. Western Union Telegraph Co.* (93 N. Y. 162, 1883) the court referred to surplus in a general sense as the excess of property over the limit defined by charter (i.e., authorized capital stock), but went on to say that in a strict legal sense surplus is always regarded as surplus profits. From the context of other cases it is clear that the word sometimes refers to assets and sometimes to profits.

It was perhaps not well understood until more recently that the word "profits" always carries within it a reference to "surplus assets," but that the phrase "surplus assets" does not always connote "profits." This relationship exists because "profit" has a meaning limited to asset-gain realized from actual exchanges, whereas the phrase "surplus assets" may include a change in asset values by appraisal and without exchange, or may refer to liquidations which result in residual (surplus?) assets.

It is confusing rather than helpful to use alternatives such as "surplus or net profits" as is sometimes done in statutes. Does this mean "surplus (that is, net) profits" or

does it mean to allow a choice of either "surplus" (assets) or "net profit"? Other combinations are equally unclear: profits and surplus (current profits and prior surplus?); earnings or surplus; surplus or undivided profits.

The noun "surplus" is sometimes modified by an adjective; usually the accompanying word is such as undivided, undistributed, accumulated, or distributable. Later, additional adjectives such as earned, paid-in, capital, and appraisal are used. And as a result of attaching adjectives the intended meaning grows clearer. But not wholly clear. For "paid-in surplus" can refer only to assets (invested) and not all to profits (earned); "earned surplus" can refer only to profits (earned) and not to assets (invested); "appraisal surplus" can refer neither to assets invested nor to profits earned. Obviously the problem of clear terminology is still present.

The use of no-par stock and the practice of appraising fixed assets combined to generate many of the modern problems of surplus terminology. But the roots of the problem reach far back of these current practices.

Perhaps in law "profits" became "surplus profits" out of an attempt to express the idea of "profits net of expenses and losses." Perhaps "surplus profits" was later compressed to "surplus" in order, by indirection, to leave paid-in surplus available for current distributions to stockholders. For example, the New York State Assembly in 1881 (following a statute of 1825) made directors liable for dividends "except from surplus profits," and in 1924 changed the phrase to read "except from surplus." And perhaps the use of no-par stock, with its accompaniment of stated capital and paid-in surplus, produced (under the concept of unimpaired capital as the prevailing dividend test) such unpredictable uses of surplus accounts that the single term "surplus" needed to be replaced by

"earned surplus," "appraisal surplus," "paid-in surplus."

The evolution of the use of "surplus" is a typical illustration of the need for a continuous scrutiny of technical terms. For they have a habit of accumulating different meanings, especially if they are words that also are in general use. Not definition and redefinition, but explanation of connotations is called for; not abandonment of useful terms, but alertness to new shades of meaning is indicated.

Effects and Debts. Accountants are familiar with the phrase "Assets and Liabilities"; and perhaps occasionally someone wonders how the term arose. Another phrase once was widely used—"Effects and Debts." Was this the antecedent?

In 1761 an English author wrote that every trader who was in financial difficulty should "make out a general state of his effects, as well what he owes as what is due him, to deliver to his creditors when they assemble to examine his affairs in conformity with the second article of title eleven of the Ordinance of 1673." The advice was also given that merchants who could not pay their debts should file a petition "attaching two accounts which they shall sign and affirm to be true, the one of the value of their effects and the other of their debts."

These quotations, from Wyndham Beawes *The Merchants Directory* (2nd edition, 1761) obviously refer to statements of assets and liabilities (if not to balance sheets derived from double-entry records) even though effects were to be reported in one "account" and debts in another.

The affirmation mentioned is of interest since it foreshadows the auditor's certificate.

"I, the underwritten do certify to all whom it may concern, that the State here above of all my effects, as well debtors as creditors, contains the truth, and that I have not omitted anything, or made use of any person or names in it that are not my true and lawful creditors, in faith of which

I have signed the present, the 29th day of May, 1750."

At another page the author wrote: "he must also strike a balance for the greater ease of his creditors, that they may see with a cast of the eye the truth of his affairs and what they have to expect; and he must likewise put underneath the said State, an account of all losses that have happened to him . . . that he may justify his conduct to his creditors in case he has not effects sufficient to pay them their whole due, that they may have nothing to reproach him with."

Beawes also refers to the case of *Miles v. Williams & ux.*, in which this phrase occurs: "All those effects and debts which he could take in or turn into money." And again: "debts, effects and estate of the bankrupt." Reference is made to the statute 5 Geo. III sec. 1 for this sentence: "The Bankrupt is to discover to the commissioners upon oath such estate and effects as he may have."

Beawes undoubtedly drew upon French authors for many of his rules. He relied especially on Savary, whose handbook on mercantile practice, in appropriate sections, expounded the French bankruptcy law of 1673. Some phrases from the French author (6th edition, 1712) will illustrate how close the English was to the French terminology.

"Je soussigné certifie à tous qu'il appartiendra, que l'estat cy dessus de tous mes effets tant actifs que passifs, contient vérité. . . ." (I the undersigned certify to all concerned, that the state of all my effects as well active as passive, comprise the truth. . . .)

The French author says "l'estat . . . de tous mes effets"; the English statute says "Estate and Effects." The French author says "l'estat de mes effets tant actifs que passifs"; the English author says "state of my effects, as well debtors as creditors"; and also "as well what he owes as what is

due him." The English court says "effects and debts," "debts, effects and estate." The French *estat* is thus translated "estate," or "state," meaning "statement"; *effets* is thus translated literally "effects," meaning properties, therefore assets.

In the quotations below the French use of *effets* is further varied. "... en cas qu'il ne se trouvant pas assez d'effets pour les payer entierment de leur du ..." (... in case that there cannot be found sufficient effects to pay (the creditors) entirely what is due them ...) "Avoir assez de bons e effets pour satisfaire ses creanciers." (to have sufficient of goods and effects to satisfy his creditors.) The French phrases *assez d'effets* and *assez de bons e effets* are faithfully rendered by Beawes as "has not effects sufficient to pay."

The modern word for "effects" (that is, properties) is "assets." Apparently the phrase "sufficient of effects" was shortened through long usage (or in translation) to the anglicized word "assets" (for *assez*). A literal retranslation of "assets" back into the original sense would give the phrase "sufficients (or enoughts) to pay his debts."

Used as nouns, the adjectives "sufficient" and "enough" do not make clear sense, whereas "effects" and "property" do. But "asset" was not thought of as a direct translation of *assez*; it became a true technical term and as such carried its own connotation—that of property available to pay debts. Later in business and accounting the term came to mean any property held by a business enterprise for use in its operation. Then by extension it was made to include any debit balance that was applicable to a future period under the accounting objective of trying to associate expense with revenue in the period when the expense made itself felt.

If anyone thinks of assets in the original meaning of the term, and lawyers often do, he may object to including under that head-

ing any item which seems inappropriate for use in paying debts. But when one recalls that *assez* was a French adjective made over into a technical English noun, he ought not to object too much upon finding that "asset," once simply a legal term, has grown into a technical term in accounting as well.

This is not the only case of an adjective's evolving into a technical noun. Another transformation that is clear to see involves the German terms for debit and credit in an account—*soll* and *haben*, literally "shall" and "have."

As bookkeeping developed in Italy, the principal verbs used in a sentence written to express a business transaction (especially a loan) came to be standardized in the Latin forms *debet dare* (shall give) and *debet habere* (shall have). When these terms were first brought over into German they were translated literally as *soll geben* and *soll haben*, and these became the terms designating respectively the left and right side of an account. When German usage had completed its construction of the two basic technical terms of bookkeeping, debit and credit, the result was not one derived from the Latin roots that are still clearly reflected in those two English words. From *soll geben* the second word was dropped, leaving *soll* to mean "debit"; from *soll haben*, the first word was dropped, leaving *haben* to mean "credit."

Since technical terms are intended to express a limited meaning, their connotation in general usage cannot be relied on to furnish a clear clue to their technical significance. So it is with the term "asset." In accounting usage its technical meaning has developed beyond its meaning in law, where the term still retains most of the early coloring derived from *assez de effets*.

Assets and surplus. One of the handicaps accountants work under is a technical vocabulary made up for the most part of words in common use. Thus any reader of

an accountant's words, by supplying his own connotation, may miss entirely the essential thought intended.

Some words create special difficulties because of long usage in a certain setting. For example, the word "asset" has so long been used with a legal connotation that accountants now are sometimes tempted to drop it as an accounting term. "Surplus" is another word that tends to mean different things to lawyers and to accountants. But to abandon terms that seem to contribute to misunderstandings would only shift the burden to substitute words. And these might serve no better; lacking as they must the rich connotations of the familiar terms they perhaps could not serve so well.

Probably a more helpful approach would be to labor at gaining an understanding of the other person's connotation and at explaining our connotation to him. This would not be easy; and it might take a long time to complete the meeting of minds. Yet the attempt could be beneficial from the beginning, for it would at once break down the thought that there could be any proprietary interest in a word.

It may be of interest therefore to take note of the origins of these two items, since current connotation often continues to express early meanings. If one may judge rightly from the examples quoted in historical dictionaries (such as Murray's) the word "surplus" has from the beginning been the more general and "assets" has been the more technical term.

Surplus (or surplusage) derives from the medieval Latin word *superplus*, a term which as early as the sixteenth century was sometimes rendered into English as "overplus" (Ympyn, 1547). Usually the sense that fits the early context of the word is that of simple excess or remainder, as surplus of yarn, of meat, of money, of words, of faults, of population. Adam Smith (1776) wrote of an exchange of surplus

pelts for blankets; Benke (1790) indicated that surplus produce forms the income of a landed proprietor; Jevons (1878) said the rent of better land will consist of the surplus of its produce over that of the poorest land.

The term is used in law as well as economics. An English statute of 1553 (7 Edw. VI c. 1) says "deliver . . . the surplusage and overplus of the value . . ."; a later statute of 1670 (22 Charles II c. 10) speaks of making a distribution of "the surplusage of the estate of any person dying intestate"; in 1827 the law of inheritance clearly states that surplus from the sale of land did not form part of the personal estate that could be passed by residuary bequest.

It is not surprising therefore that lawmakers writing statutes relating to business enterprises should before long use the term "surplus profits" in much the same manner that one would refer to surplus pigs. Presumably it did not occur to any one then to ask whether there were any other kinds of profits; or to inquire, if some profits were surplus profits (i.e., excess), what the word "profits" meant without the adjective.

The word "assets" also got its legal significance very early. In the English law of estates (as in Littleton's *Tenures*, 1574) the word was spelled in the sixteenth century as at present, assets. In old French it was *asez* (enough). In earlier usage (late popular Latin), *ad satis* (to a sufficiency) was a frequent substitute for *sates* (enough) and had much the same connotation as was later given to *asez*.

The Anglo-French law phrase *aver assets*, a term from the law of estates and executorship, is a significant transitional term carrying a Latin meaning over into English by way of the French. Literally it says "to have sufficient"; but to make the meaning clear it needs to be rendered as "to have sufficient (effects to satisfy the testator's debts and legacies)."

In Blackstone's *Commentaries* (1768) the author points out that a deed by an ancestor was binding on an heir only in so far as the latter had inherited property "sufficient to answer the charge . . . which sufficient estate is in law called assets." (Vol. II, p. 244.)

By easy stages the meaning has passed from that of property sufficient to cover a testator's legacies, to that of the property applicable to the payment of the debts of a bankrupt, and thence to that of the property of a going concern available to creditors of the enterprise if they should seize it at that moment because of suspected insolvency.

These concepts of the meaning of "assets," having been long embedded in legal thinking, continue to the present time to tie the term subconsciously for many people to some issue of solvency. Accountants and businessmen must often use "assets" in a much broader sense than lawyers. The result often is a failure to understand each other. All concerned should realize that the term has a double meaning that is easily grasped. Assets are properties (and property rights) that are judged useful to the economic purposes of the owning enterprise, and were acquired by it to serve those purposes. At the same time, various types of debt were incurred incidental to acquiring the needed working properties. And because of these debt contracts, assets must also be recognized as properties capable of being realized upon for meeting financial obligations.

For some purposes one concept will be the more important; but the other has its moments of importance too. For accounting use it is clear that the most basic idea of assets will be one related to economic purposes—because the primary service of accounts is rendered to an economic enterprise. Since the act of incurring liabilities is only incidental to economic productivity, the service of assets for paying debts is

to accounting no more than a secondary meaning of the term.

From the dual meaning of assets, it follows that the balance sheet has a dual significance. It may be considered as a "solvency statement" presenting a contrasting of debts and the possible means of their discharge. And it may be considered as a "capital statement" wherein first emphasis is given to the productive left side rather than to the unproductive right side where the emphasis lies in the other case. Since the basic significance of financial statements in business relates it to the process of earning profits, it must be understood that the list of assets may very well include some items that would have little debt-paying power in the event of enterprise liquidation. But this use need not be misleading; it may reasonably be assumed that all users of the balance sheet will be well enough informed to be aware of the way the two concepts of assets limit each other.

Balance-Sheet Headings. Most balance sheets of today are headed by the term "Assets and Liabilities." Others include "and Capital" on the right side. There may be some opinion in favor of "Assets and Equities." But the logical appropriateness for corporations of "equities" in place of "liabilities and capital" has not yet overcome the desire to preserve the traditional emphasis on the dissimilarities between creditor and owner.

The heading has not always included three terms. Research has not been made that would indicate when the word "capital" was added to "Assets and Liabilities." Neither can a definite date be set for the beginning of the two-term heading, since a scattered early use could easily be the exception rather than the rule. However, the dates of some early usage may be interesting for the indication they may give of the persistence of earlier terminology.

In some cases the headings were simply

Debtor, Creditor, or Dr. Cr. Thomas King used these terms in a text book of 1717. Robert Hamilton (1797) wrote, "The Dr. of the Balance Sheet contains every kind of property belonging to you and every debt owing to you; and the Cr. contains every debt owing by you: therefore the difference of the sides will exhibit your net estate" (p. 286). The Bank of France (reported in *Hunt's Merchants Magazine*) for 1841 and 1845 also used these simple headings. The London and Westminster Bank in 1851 spelled the headings out.

Incidentally Hamilton (p. 285) also said regarding inventory: "It is much more proper to value the goods on hand in conformity with current prices, than at prime cost; for the design of offering any value is to point out the gain or loss; and the gain is in reality obtained so soon as the prices rise or the loss suffered as soon as they fall."

The East India Company is the basis of an article in the same magazine. In the company's accounts for 1733 the heading is "The Effects and Credits." It is noteworthy, moreover, that the article (1840) refers to the exclusion from company reports of forts and buildings abroad "because they were not assets . . . any further than they could be disposed of." Thus implying that the word "assets" was restricted to uses referring to items available for paying debts.

A number of authors of bookkeeping texts near the turn of the nineteenth century were using the word "effects." Robert Hamilton (1797) said a bankrupt was compelled to deliver "an account of his effects upon oath." Patrick Kelly (1803) referred to "my effects, both real and personal." William Jackson (1816) wrote that a merchant must keep accounts of his effects, his debts active and passive, and his losses and gains. James Maginnes (1817): "Take an inventory of your effects." Nicholas Harris (1842): "Inventory of my effects and debits."

Peter Duff (1848) reflected a small change in terminology. He spoke of making an opening entry of "effects and liabilities." In 1853 Thomas Jones in a textbook gave to a balance sheet the heading "Resources and Liabilities"; and in the body of his discussion (as pp. 119, 120) he referred to "assets." But this last was not in a statement heading.

There is other evidence to indicate that the newer terminology was widely accepted about the middle of the nineteenth century. The same Thomas Jones, in an article in *Hunt's Merchants Magazine* (forerunner of the *Commercial and Financial Chronicle*), used the heading "Resources and Liabilities" in 1843. Bank statements published in that periodical for 1839, 1848, and 1850 also used that heading. Some banks preferred "Liabilities and Means" (Bank of New York, 1844), presumably intending "means" to be equivalent to the earlier term "effects"—cash being a *means* of discharging liabilities.

"Assets and Liabilities" was the heading used by banks in South Carolina in 1850. But the Bank of England used "Liabilities and Assets" in 1839, and the banks in Rhode Island (1840) followed the English usage. Published statistics of the banks of New Orleans (1842) had one column headed "assets."

Apparently banks were the first to use the term "assets" regularly in statement headings. Possibly this may have been because to them liquidity (debt-paying ability) was an important matter, as it was also in the law of estates where the same term was originally used. The use of "effects" and "resources" in ordinary bookkeeping may have reflected the authors' desire to avoid a foreign-sounding technical term, such as "assets." Certainly many authors stressed their intention to make the subject simple; this would be one way to try for that result.

PROFESSIONAL EXAMINATIONS

A Department for Students of Accounting

HENRY T. CHAMBERLAIN

THE FOLLOWING problems were prepared by the Board of Examiners of the American Institute of Accountants and were presented as the first half of the C.P.A. examination in accounting practice on May 15, 1946. The candidates were required to solve problem 1 and either problem 2 or problem 3. The weights assigned were: problem 1, 30 points; problem 2 or 3, 20 points.

The time allowed was four and a half hours. A suggested time schedule is given below:

Problem 1 45 minutes

Problem 2 90 minutes

Problem 3 90 minutes

No. 1

From the following information, prepare corrected condensed income statements of B-V Co., Inc., for 1942, 1943, and 1944, respectively, and the adjusting entry applicable to the balance-sheet of B-V Co., Inc., as at December 31, 1944.

Condensed statements of income of B-V Co., Inc., for 1942, 1943, and 1944 prior to correction are as follows:

| Particulars | Year ended December 31 | | |
|--|------------------------|-----------|-----------|
| | 1942 | 1943 | 1944 |
| Net sales | \$150,000 | \$200,000 | \$400,000 |
| Cost of sales (direct materials, direct labor, and applied manufacturing overhead) | \$100,000 | \$135,000 | \$265,000 |
| Add underapplied or deduct overapplied manufacturing overhead | (1,500) | 700 | 2,000 |
| Cost of sales | \$ 98,500 | \$135,700 | \$267,000 |
| Gross profit on sales | \$ 51,500 | \$ 64,300 | \$133,000 |
| Selling, administrative, and general expenses | 40,000 | 45,000 | 55,000 |
| Net profit on operations | \$ 11,500 | \$ 19,300 | \$ 78,000 |
| Other income (net) | 5,000 | 1,000 | 4,000 |
| Net income before taxes on income | \$ 16,500 | \$ 20,300 | \$ 82,000 |
| Provision for federal and state income taxes | 4,125 | 6,090 | 32,800 |
| Net income | \$ 12,375 | \$ 14,210 | \$ 49,200 |

Relevant data are as follows:

- Sales and gross profit in the income account for 1942 and 1943 include undelivered merchandise ready for inspection by purchaser but not inspected and not shipped at the end of the respective years. The sales agreement on this merchandise provided for inspection before acceptance and delivery. The selling price of such merchandise was \$25,000 in 1942, and \$15,000 in 1943; the gross profit based on selling price was 36% and 40%, respectively.
- The inventory is ascertained to have been understated by \$8,000 at December 31, 1942, as the result of a clerical error in the extensions of inventory prices and quantities.
- On July 1, 1942, first mortgage, 4%, 20-year bonds having a par value of \$50,000 were issued at a premium of \$4,000. This premium was treated as "other income" in 1942.
- For purposes of this problem, the effective rates of taxes on income of B-V Co., Inc., may be considered as being: 1942—25%; 1943—30%; 1944—40%. Also, for purposes of this problem, disregard interest on tax adjustments and carry all tax adjustments, debit or credit, through a reserve for federal and state income taxes.
- Plant and related depreciation reserve control accounts appear in the general ledger as follows: (Over-all straight line depreciation rate of 10% is to be considered acceptable)

| Plant Control | | | Reserve for Depreciation Control | | |
|--------------------------------|-----------|-----------|----------------------------------|-----------|----------|
| | Dr. | Cr. | | Dr. | Cr. |
| 1/ 1/42 Balance G/L..... | \$200,000 | — | 1/ 1/42 Balance G/L..... | — | \$60,000 |
| 4/ 1/43 Building Vo. 4-11..... | 50,000 | — | 12/31/42 Depreciation J-12-1.... | — | 20,000 |
| 7/ 1/43 Building Vo. 7-11..... | 10,000 | — | 12/31/43 Depreciation J-12-1.... | — | 23,750 |
| | | | 12/31/44 Depreciation J-12-1.... | — | 26,000 |
| 12/31/44 Balance..... | — | \$260,000 | 12/31/44 Balance..... | \$129,750 | — |

(a) Vo. 4-11: Cost of completing extension to factory building No. 1—\$50,000.

(b) Vo. 7-11: Cost of repairing storm damages to roof of factory—\$10,000.

(c) A unit of machinery included in the plant control at \$5,000 and having a net depreciated book value of \$1,000 as at December 31, 1944, was discarded on that date. No entry was made to reflect the retirement in the plant or related reserve accounts.

No. 2

From the information following, prepare an income statement showing therein appropriate manufacturing cost variances of Bunson Co., for January, 1946, supported by journal entries of transactions for the month.

The Bunson Co. makes unit M. The manufacturing of unit M is based on three successive and continuous operations, namely, operations M-10 to M-12, inclusive, in which the manufacturing cost of such unit is developed as shown by the following tabulation of percentages of cost of manufacture:

| Percentages of Cost of Manufacture of Unit M | | | |
|--|----------|-------|----------|
| Operation | Material | Labor | Overhead |
| M-10..... | 20% | 20% | 40% |
| M-11..... | — | 35 | 40 |
| M-12..... | 80 | 45 | 20 |
| Total..... | 100% | 100% | 100% |

(The company does not record the actual labor charges applicable to each operation.)

The Bunson Co., operates a cost accounting system based on standard costs which are incorporated in the manufacturing cost accounts. The differences between standard costs and actual costs are reflected in appropriate variance accounts, namely, material price, material usage, direct labor rate, direct labor time, and over-all manufacturing overhead. The material price variance is assumed to be realized at the time of purchase, irrespective of time of usage.

The standard manufacturing costs used for unit M (based on a planned monthly

production ranging between 8,000 and 12,000 units M) are as follows:

| | Per Unit M | |
|--|-------------------|---------------|
| | Quantity or Hours | Amount |
| Material: | | |
| Item M-a (issued in operation M-10)..... | 1 | \$.50 |
| Item M-b (issued in operation M-12)..... | 1 | 2.00 |
| Direct labor (total for all operations at uniform rate of \$5 per hour)..... | $\frac{1}{2}$ hr. | 1.25 |
| Overhead (applicable to operations as a whole): | | |
| Variable expenses..... | | .60 |
| Fixed expenses..... | | .90 |
| | | <u>\$5.25</u> |

The inventories applicable to unit M as at December 31, 1945, stated in accordance with the foregoing schedule of standard costs, are as follows:

Material—Item M-a—100 units; item M-b—100 units
 Work in progress—50 units complete through operation M-10
 Finished goods—none

Transactions during January, 1946, are submitted as follows:

The voucher register reflects applicable transactions paid and incurred as follows:

| | Amount |
|---|----------|
| Material purchases— | |
| Item M-a—12,000 units @ \$.45 per unit. | \$ 5,400 |
| Item M-b—12,000 units @ 2.10 per unit. | 25,200 |
| Payroll for all operations— | |
| Direct labor—3,100 hours @ \$1.2625 per $\frac{1}{2}$ hr..... | 15,655 |
| Indirect labor..... | 1,500 |
| Manufacturing overhead, other than indirect labor..... | 15,000 |
| Selling, administrative, and general expenses..... | 25,000 |

Other facts are:

During January, 1946, 11,000 units M were transferred to the finished goods warehouse and 10,500 units were sold at \$9 per unit M.

As at January 31, 1946, 100 units of work in progress are complete through operation M-11.

Stores requisitions indicate issuances of material items M-a and M-b in the quantities required for the production carried through the respective operations. A supplementary stores requisition, however, indicates that item M-a actually used was 2% in excess of standard quantity required.

No. 3

From the following information, prepare a work sheet for Middle City for the year ended June 30, 1945, showing opening balances, entries in the various accounts to reflect transactions for the year, and fund balance-sheets at the end of the year.

The fund balance-sheets of Middle City at July 1, 1944, are submitted as follows:

MIDDLE CITY

Combined Balance-Sheet—All Funds: July 1, 1944

| General Fund | | Liabilities, Reserves and Surplus | |
|--|------------------|---|------------------|
| Assets | | | |
| Cash..... | \$ 50,000 | Accounts payable..... | \$ 30,000 |
| Taxes Receivable—delinquent..... | 25,000 | Reserve for encumbrances..... | 5,000 |
| | | Due to revolving fund..... | 5,000 |
| | | Unappropriated surplus..... | 35,000 |
| Long-time advance to revolving fund..... | 15,000 | Unappropriated surplus—advance to revolving fund..... | 15,000 |
| | <u>\$ 90,000</u> | | <u>\$ 90,000</u> |
| Transportation Revolving Fund | | | |
| Cash..... | \$ 10,000 | Long-time advance from general fund..... | \$ 15,000 |
| Due from general fund..... | 5,000 | | |
| | <u>\$ 15,000</u> | | <u>\$ 15,000</u> |
| | <u>\$105,000</u> | | <u>\$105,000</u> |

Transactions for fiscal year ended June 30, 1945:

- Estimated total revenues are \$200,000, including \$75,000 of miscellaneous revenue.
- Appropriations are \$175,000.
- The council levied property taxes in the amount of \$125,000. Based on experience, the expected losses will be 5%.

- Receipts from current tax revenues amounted to \$85,000 and receipts from miscellaneous sources amounted to \$80,000.
- Delinquent taxes received were \$23,500 and the balance is considered uncollectible.
- General fund materials and supplies received and vouchered for payment amounted to \$95,000, including \$4,000 in complete fulfillment of all orders outstanding at July 1, 1944; budgeted orders placed amounted to \$100,000 and orders outstanding at the end of the year amounted to \$4,000.
- Salary and wage payments amounted to \$72,000, as budgeted; vouchered bills paid were \$90,000.
- Collections on taxes written off in prior years were \$1,650.
- Taxes collected in advance were \$1,000.
- In order to finance the construction of certain local roadways, the council voted to set up a special assessment fund and levied a special assessment of \$75,000 on 1/1/45, collectible in equal proportions over a period of three years, with interest from date of assessment at the rate of six per cent per year.
- Pending collection of special assessments, 5% bonds in the amount of \$25,000 were sold at a premium of \$200 on January 1, 1945. The amount of premium is considered too small to be amortized over the life of the bonds.
- Construction contracts were let in amount of \$50,000.
- Contractors were paid \$20,000 less 10% retained percentage.
- Special assessments collected amounted to \$23,000, representing \$22,500 principal on current assessments due for the payment of bonds and \$500 interest on deferred assessments to pay interest on outstanding bonds.
- Outstanding bonds of \$12,000 were paid, plus interest of \$625.
- The transportation revolving fund purchased trucks for \$9,000 of which \$5,000 remains unpaid on open account.
- The transportation revolving fund charged the general fund for transportation services applicable to general fund activities in the amount of \$3,000 at cost, including depreciation on trucks of \$1,200.
- The transportation revolving fund was paid \$6,000 by the general fund.

Solution to Problem 1

B-V Company
Work Sheet—Adjustment of Profits
1942, 1943 and 1944

| | 1942 | | 1943 | | 1944 | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. |
| Net income, per statements . . . | | \$12,375.00 | | \$14,210.00 | | \$49,200.00 |
| Sales | \$25,000.00 | | \$15,000.00 | 25,000.00 | | 15,000.00 |
| Cost of Sales | | 16,000.00 | 16,000.00 | 9,000.00 | \$ 9,000.00 | |
| Inventory adjustment—cost of sales | | 8,000.00 | 8,000.00 | | | |
| Premium on bonds—other income | 3,900.00 | | | 200.00 | | 200.00 |
| Storm damage to roof | | | 10,000.00 | | | |
| Depreciation adjustment—cost of sales | | | | | | 1,000.00 |
| Loss on retirement of machinery | | | | | 1,000.00 | |
| Provision for income taxes, per statement | | 4,125.00 | | 6,090.00 | | 32,800.00 |
| | \$28,900.00 | \$40,500.00 | \$49,000.00 | \$54,500.00 | \$10,000.00 | \$98,200.00 |
| Net income before taxes on income | | \$11,600.00 | | \$ 5,500.00 | | \$88,200.00 |
| Provision for income taxes | \$ 2,900.00 | | \$ 1,650.00 | | \$35,280.00 | |
| Net income | 8,700.00 | | 3,850.00 | | 52,920.00 | |
| | \$11,600.00 | \$11,600.00 | \$ 5,500.00 | \$ 5,500.00 | \$88,200.00 | \$88,200.00 |

The adjusting journal entry is as follows:

| | |
|--|-------------|
| Surplus | \$10,315.00 |
| Reserve for federal and state income taxes | 3,185.00 |
| Reserve for depreciation | 5,000.00 |
| Premium on bonds | \$ 3,500.00 |
| Plant Control | 15,000.00 |

B-V Company
Statements of Income and Expense
Years ended December 31, 1942, 1943 and 1944

| | 1942 | 1943 | 1944 |
|--|--------------|--------------|--------------|
| Sales | \$125,000.00 | \$210,000.00 | \$415,000.00 |
| Cost of Sales | 74,500.00 | 150,700.00 | 275,000.00 |
| Gross profit on sales | \$ 50,500.00 | \$ 59,300.00 | \$140,000.00 |
| Selling, administrative & general expenses | 40,000.00 | 45,000.00 | 55,000.00 |
| Net profit on operations | \$ 10,500.00 | \$ 14,300.00 | \$ 85,000.00 |
| Other income (net) | \$ 1,100.00 | \$ 1,200.00 | \$ 4,200.00 |
| Loss due to storm damage, 1943 and retirement of machinery, 1944 | | 10,000.00 | 1,000.00 |
| | \$ 1,100.00 | \$ 8,800.00 | \$ 3,200.00 |
| Net income before taxes on income | \$11,600.00 | \$ 5,500.00 | \$88,200.00 |
| Provision for federal & state taxes on income | 2,900.00 | 1,650.00 | 35,280.00 |
| | \$ 8,700.00 | \$ 3,850.00 | \$52,920.00 |

Solution to Problem 2

Inventories

December 31, 1945

| | | |
|---|----------|----------|
| Material: Item M-a-100 units @ \$.50..... | | \$ 50.00 |
| Item b-100 units @ \$2.00..... | | 200.00 |
| Work in process, 50 units completed through M-10: | | |
| 50 units of M-a @ \$.50..... | \$ 25.00 | |
| 50 units of labor in M-10 @ \$.25..... | 12.50 | |
| 50 units of overhead in M-10 @ \$.60..... | 30.00 | \$ 67.50 |

Journal Entries

| | | |
|---|-------------|-------------|
| (1) | | |
| Material M-a..... | \$ 6,000.00 | |
| Accounts payable..... | | \$ 5,400.00 |
| Material price variance..... | | 600.00 |
| 1200 units at \$.45..... | | |
| (2) | | |
| Material M-b..... | \$24,000.00 | |
| Material price variance..... | 1,200.00 | |
| Accounts payable..... | | \$25,200.00 |
| 1200 units at \$2.10..... | | |
| (3) | | |
| Labor in process..... | \$15,500.00 | |
| Labor rate variance..... | 155.00 | |
| Accrued payroll..... | | \$15,655.00 |
| 3100 hours at \$5.05 per hour (12400 units)..... | | |
| (4) | | |
| Manufacturing overhead..... | \$16,500.00 | |
| Accrued payroll..... | | \$ 1,500.00 |
| Accounts payable..... | | 15,000.00 |
| To record overhead incurred..... | | |
| (5) | | |
| Material in process—M-a..... | \$ 5,525.00 | |
| Material quantity variance..... | 110.50 | |
| Material M-a..... | | 5,635.50 |
| 11271 units issued (See Schedule 1)..... | | |
| (6) | | |
| Material in process—M-b..... | \$22,000.00 | |
| Material M-b..... | | \$22,000.00 |
| 11000 units issued (See Schedule 2)..... | | |
| (7) | | |
| Finished goods..... | \$57,750.00 | |
| Material in process—M-a..... | | \$ 5,500.00 |
| Material in process—M-b..... | | 22,000.00 |
| Labor in process..... | | 13,750.00 |
| Manufacturing overhead..... | | 16,500.00 |
| 11000 units finished at standard cost..... | | |
| (8) | | |
| Labor time variance..... | \$ 1,693.75 | |
| Labor in process..... | | \$ 1,693.75 |
| To adjust for time variance (Schedule 3)..... | | |
| (9) | | |
| Manufacturing overhead..... | \$ 90.00 | |
| Manufacturing overhead variance..... | | \$ 90.00 |
| To adjust for overhead variance (Schedule 4)..... | | |
| (10) | | |
| Cost of sales..... | \$55,125.00 | |
| Finished goods..... | | \$55,125.00 |
| Sale of 10500 units..... | | |
| (11) | | |
| Accounts receivable..... | \$94,500.00 | |
| Sales..... | | 94,500.00 |
| Sale of 10500 units at \$9.00..... | | |
| (12) | | |
| Selling and administrative expense..... | \$25,000.00 | |
| Accounts payable..... | | 25,000.00 |
| To record expenses..... | | |

Schedule 1

| | Units |
|---|--------|
| Standard quantity of M-a required for production: | |
| To complete work in process at December 31, 1945..... | none |
| To complete 10950 units of finished goods..... | 10,950 |
| Issued for work in process at January 31, 1946..... | 100 |
| Total..... | 11,050 |
| Actual units of M-a issued (102% of 11050)..... | 11,271 |
| Excess over standard..... | 221 |

Schedule 2

| | Units |
|---|--------|
| Standard quantity of M-b required for production: | |
| To complete work in process at December 31, 1945..... | 50 |
| To complete 10950 units of finished goods..... | 10,950 |
| Issued for work in process at January 31, 1946..... | none |
| Total..... | 11,000 |
| Actual units of M-b issued..... | 11,000 |

Schedule 3

| | Units |
|---|-------------|
| Standard units of labor: | |
| 50 units of work in process equivalent to 10 units of labor at December 31, 1945. Labor expenditure to complete 10950 additional units completed..... | 40 |
| 100 units of work in process equivalent to 55 units of labor at January 31, 1946..... | 55 |
| Standard units of labor expended..... | 11,045 |
| Standard cost of 11045 units at \$1.25.... | \$13,806.25 |
| Standard cost incurred for 12400 units.... | 15,500.00 |
| Standard time variance..... | \$ 1,693.75 |

Schedule 4

| | Units |
|--|-------------|
| Standard units of overhead: | |
| Work in process at December 31, 1945, 50 units equivalent to 20 units of overhead. Required to complete..... | 30 |
| 10950 additional units completed..... | 10,950 |
| Work in process at January 31, 1946, 100 units 80% complete..... | 80 |
| Total..... | 11,060 |
| Standard cost of 11060 units of overhead at \$1.50..... | \$16,590.00 |
| Actual overhead cost..... | 16,500.00 |
| Overhead variance..... | \$ 90.00 |

Bunson Co.
Statement of Income and Expense
January, 1946

| | | |
|--|-------------|-------------|
| Sales..... | | \$94,500.00 |
| Cost of sales: | | |
| Standard cost of goods sold..... | \$55,125.00 | |
| Material price variance..... | 600.00 | |
| Material quantity variance..... | 110.50 | |
| Labor rate variance..... | 155.00 | |
| Labor time variance..... | 1,693.75 | |
| | \$57,684.25 | |
| Less manufacturing overhead variance.... | 90.00 | 57,594.25 |
| Gross profit..... | | \$36,905.75 |
| Selling, general and administrative expense..... | | 25,000.00 |
| Net income..... | | \$11,905.75 |

Solution to Problem 3

MIDDLE CITY

Work Sheet

For the year Ended June 30, 1945

| General Fund | Trial Balance July 1, 1944 | Transactions for the year | Trial Balance June 30, 1945 |
|---|-------------------------------|---|--------------------------------|
| Cash..... | \$50,000.00 | (4) \$188,500.00 (11) \$162,000.00 (12) 2,650.00 (21) 6,000.00 | \$ 73,150.00 |
| Taxes receivable—delinquent..... | 25,000.00 | (3) 125,000.00 (4) 23,500.00 | 1,500.00 |
| Taxes receivable—current..... | | (11) 90,000.00 (8) 95,000.00 | 40,000.00 |
| Long time advance to revolving fund.. | 15,000.00 | (7) 91,000.00 (6) 100,000.00 | 15,000.00 |
| Accounts payable..... | \$30,000.00 | (8) 4,000.00 | \$ 35,000.00 |
| Reserve for encumbrances..... | 5,000.00 | (9) 1,000.00 | 4,000.00 |
| Due to revolving fund..... | 5,000.00 | (10) 5,000.00 | |
| Unappropriated surplus..... | 35,000.00 | (21) 6,000.00 (21) 3,000.00 (5) 1,500.00 (9) 1,000.00 (12) 1,650.00 (23) 28,750.00 | 2,000.00 64,900.00 |
| Unappropriated surplus—advance to revolving fund..... | | | 15,000.00 |
| | \$90,000.00 | | \$90,000.00 |

Professional Examinations

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| | | | | |
|--|--------------------|-----------------------|-----------------------|---------------------|
| Estimated revenue—taxes..... | (1) 118,750.00 | (3) 118,750.00 | | |
| Estimated revenue—miscellaneous.... | (1) 75,000.00 | (4) 80,000.00 | | |
| Estimated budget surplus..... | (23) 5,000.00 | | | |
| | (2) 175,000.00 | (1) 193,750.00 | | |
| Reserve for uncollectible taxes..... | (23) 18,750.00 | | | |
| | | (3) 6,250.00 | 7,750.00 | |
| Appropriations..... | (8) 91,000.00 | (2) 175,000.00 | | |
| | (11) 72,000.00 | | | |
| | (21) 3,000.00 | | | |
| | (22) 4,000.00 | | | |
| | (23) 5,000.00 | | | |
| Budget encumbrances..... | (6) 100,000.00 | (7) 91,000.00 | | |
| | | (10) 5,000.00 | | |
| | | (22) 4,000.00 | | |
| Taxes collected in advance..... | | (12) 1,000.00 | | |
| | | | 1,000.00 | |
| | | | <u>\$129,650.00</u> | <u>\$129,650.00</u> |
| Transportation Revolving Fund | | | | |
| Cash..... | \$10,000.00 | (21) \$ 6,000.00 | (19) \$ 4,000.00 | \$ 10,200.00 |
| | | | (20) 1,800.00 | |
| Due from general fund..... | 5,000.00 | (20) 3,000.00 | (21) 6,000.00 | 2,000.00 |
| Long time advance from general fund.. | \$15,000.00 | | | \$ 15,000.00 |
| Automotive equipment..... | | (19) 9,000.00 | | 9,000.00 |
| Accounts payable..... | | | (19) 5,000.00 | 5,000.00 |
| Reserve for depreciation—automotive equipment..... | | | (20) 1,200.00 | 1,200.00 |
| | <u>\$15,000.00</u> | | | <u>\$ 21,200.00</u> |
| | <u>\$15,000.00</u> | | | <u>\$ 21,200.00</u> |
| Special Assessment Fund | | | | |
| Cash for construction..... | | (14) \$ 25,000.00 | (16) \$ 18,000.00 | \$ 7,000.00 |
| Cash for bonds and interest..... | | (14) 200.00 | (18) 12,625.00 | 10,575.00 |
| | | (17) 23,000.00 | | |
| Special assessments receivable..... | | (13) 75,000.00 | (17) 22,500.00 | 52,500.00 |
| Bonds payable..... | | (18) 12,000.00 | (14) 25,000.00 | \$ 13,000.00 |
| Construction in progress..... | | (15) 50,000.00 | | 50,000.00 |
| Contracts payable..... | | (16) 20,000.00 | (15) 50,000.00 | 30,000.00 |
| Retained on contracts..... | | | (16) 2,000.00 | 2,000.00 |
| Special assessment fund balance..... | | (18) 625.00 | (13) 75,000.00 | 75,075.00 |
| | | | (14) 200.00 | |
| | | | (17) 500.00 | |
| | | <u>\$1,405,975.00</u> | <u>\$1,405,975.00</u> | <u>\$126,075.00</u> |
| | | | | <u>\$120,075.00</u> |

KEY TO JOURNAL ENTRIES

- (1) To set up estimated revenues.
- (2) To record appropriations.
- (3) To record tax levy.
- (4) To record cash receipts.
- (5) To set up reserve for uncollectible delinquent taxes.
- (6) To record budget encumbrances for the year.
- (7) To reverse encumbrances for materials and supplies vouchered for payment.
- (8) To charge appropriations and reserve for encumbrances for amounts vouchered as follows:

| | |
|--------------------------------|-------------|
| Encumbrances July 1, 1944..... | \$ 4,000.00 |
| Encumbrances during year..... | 91,000.00 |
- (9) To reverse unused encumbrances July 1, 1944.
- (10) To reverse unused encumbrances for current year:

| | |
|---------------------------------------|--------------------|
| Amount encumbered in (6) above..... | \$100,000.00 |
| Amount reversed in (7)..... | 91,000.00 |
| Amount outstanding June 30, 1945..... | \$ 9,000.00 |
| Amount reversed in this entry..... | 4,000.00 |
| | <u>\$ 5,000.00</u> |
- (11) To record payment of salaries, wages and vouchers.
- (12) To record taxes written off and taxes collected in advance.
- (13) To set up special assessments levied.
- (14) To record sale of bonds.
- (15) To record contracts let.
- (16) To record payment on contracts and reversal of encumbrances.
- (17) To record collection of assessments receivable.
- (18) To record payment of bonds and interest.
- (19) Purchase of trucks by transportation fund.
- (20) To record transportation services and depreciation billed to general fund.
- (21) Payment by general fund to revolving fund.
- (22) To close unused budget surplus, unexpended appropriations and estimated revenues into unappropriated surplus.

BOOK REVIEWS

HERBERT E. MILLER

Financial Accounting. George O. May. (New York: Macmillan Company, 1943. Pp. 274. \$3.00.)

If a single phrase could be sufficient to express the essence of this book written by one of the elder statesmen of accounting, no better choice could be made than its own subtitle, "A Distillation of Experience." For this is no treatise aiming at systematic exposition. Here the experience and observation of many years is now distilled into a series of essays on loosely related topics, the whole being enriched by an abundance of historical facts and numerous expressions of the author's personal views. Thus, without undertaking to speak for the profession, the author enables the reader to glimpse the events and ideas which have been high in the thought of a generation of public accountants, especially matters that have been of particular concern in the last decade. The service rendered by the author in this way will be gratefully received; contemporary thought is seldom so skillfully epitomized by a contemporary.

If the book were to be characterized a little more in detail, two aspects of its contents should be added to the above. One would indicate the topical areas touched upon and the other would show that certain themes reappear throughout the work.

The fourteen chapters fall into two categories, each accounting for about one-half of the 265 pages of text. Nine of the chapters deal principally with important issues in accounting theory. These include such titles as Nature of Financial Accounting, Uses of Accounts, Accounting Principles and Postulates, Cost, Income, Liabilities, Inventories and Receivables. Although these chapters are not grouped into a formal major division, a theme seems to run through the theory discussions: Accounting is necessarily conventional; it should not be expected to be thoroughly logical; rules and customs rather than principles will be the guide to accounting action.

Six chapters are more strongly historical in flavor than the others. One of them bears the title, Historical; the others include Cost and Value, Depreciation, Depreciation and Regulation since 1918, Depreciation Methods, Accounting and Regulation. Here the theme seems to be that accounting must in a large measure be as individual as the enterprise and management which it reflects; hence accounting regulations devised outside the enterprise and uniformities imposed through the power given to government agencies may fail to take adequately into account the extent and complexity of the diversities inherent in our system of free enterprise in a profit and loss economy.

It is apparent that the author is more strongly impressed with the diversities which often precipitate accounting issues than he is with the possibility that greater uniformity will succeed in avoiding the creation of issues. He believes that the effect of diversities can best be met by full freedom in each case to act according to the judgment of the businessmen and professional

accountants concerned. And he therefore looks with some disfavor upon most accounting regulatory activities as being likely to overstress the expected benefits of uniformity of practice. At the same time he is disturbed by ideas which agitate for formulating principles and for searching out logical interconnections in accounting, since these seem to him to impute a more fundamental nature to accounting rules than their nature as conventions would justify.

Such, in brief, is the reviewer's general reaction to the book; what follows is detail. The literature is measurably enriched by every such book. Students, teachers, practitioners, and government agents can benefit from reading this one. The historical perspective it can give is alone worth the time spent in reading. This could perhaps counteract some of the characteristic American tendency to ignore history. And though a reader may not always agree with the author's preferences, he can hardly escape reaping some benefit from noting the observation and reasoning that have gone into the formulation of the views expressed.

Now for a more detailed view of the historical chapters. Some readers may feel that the author's major reaction to the historical development of accounting during the past generation is made somewhat unduly pessimistic by the extensive consideration given to the actions and attitudes of governmental agencies, such as Public Utility Commissions, the Bureau of Internal Revenue, and the Securities and Exchange Commission. It is the author's view (p. 69) that "accounting influence rose to a high point" in connection with the revenue acts and regulations of 1917 and 1918; that income tax laws as a whole deserve to be called "a towering monument to legalism"; and (p. 71) that "if 1918 saw the authority of the accounting body in America at a peak, the years 1933 and 1934 saw it at a low point."

There may be grounds indeed for pessimism in connection with many specific actions by governmental agencies. Most of them are so thoroughly convinced of their mission and seriously conscious of their authority, that they may sometimes have overreached themselves. But it is also fair to say that in the years during which some of them have been functioning, a new high point has been reached in the variety and importance of the public services rendered by American professional accountants, and in the public recognition of the independent position and technical knowledge which make that service possible. Thus governmental agencies have not been too much of a handicap to the profession.

The three chapters on depreciation are in a large measure a contrasting of the treatment of this expense in industrial accounting and in the controlled accounting of regulated companies. Being historical in its approach, the material gives the reader an excellent basis for sensing the complexities which pile one upon another as a result of government's assuming the task, however necessarily, of substituting its fiat for the con-

trol of prices, costs, and profits by the ordinary forces of economic conditions.

The treatment of depreciation by industry as cost amortization is pictured as flowing out of the merger period of 1896 to 1903. In order to study a group of companies under comparable accounting conditions, it often was necessary in those days to eliminate the effect of the (conservative) prior practice of charging many new capital items to expense and then to substitute income charges for systematic depreciation. The depreciation practice thus established was usually carried over into the accounting of the new corporations. By 1906, straight-line depreciation was in fairly general use, and by 1918 depreciation accounting was fully established in unregulated industry.

In regulated companies, on the other hand, depreciation was for many years a highly controversial subject, to which the author devotes the larger part of two important chapters.

In the earlier cases the courts did not distinguish between provisions for future replacement and amortizations of past cost. By 1913-1914, however, the common-law view was that depreciation was a function of value. The usual practice was to provide retirement reserves a few years in advance for the cost of property soon to be retired. But in 1920 the Interstate Commerce Commission sought to introduce amortization into railway accounting. This would result (1) in substituting cost for value in rate regulation, and (2) in associating the depreciation thus charged as operating expense with the deductions used in computing the rate base. But it was over twenty years before a modified straight-line form of depreciation accounting was put in effect. Some of the delay had been due to the controversies which the proposal stirred up and some to temporary suspension of the depreciation order during the depression years.

In 1922 the National Association of Railroad and Utilities Commissioners gave approval, through their standard classification of accounts, to retirement reserve accounting for fixed assets. But it was not until 1936 that they advocated depreciation accounting such as had so long before been recognized in taxation and general accounting.

The course of development to this point thus gives the appearance of gradually evolving in the direction of wide agreement to use depreciation accounting in regulated as well as unregulated companies. But actual agreement was not so easily achieved.

The author is concerned about several questions at this point. Is it fair to the companies for the commissions to imply that present-day inadequacy of retirement reserves (for conversion into amortization reserves) was due solely to the action of company management, when part of the responsibility for past use of this method goes back to the NARUC standard classification prior to 1936 and to the earlier court decisions? In trying to free themselves from the effect of court decisions that tied rate determination to fair value, "have not the commissions asserted and ruthlessly exercised the right to change accounting principles with unlimited retroactive effect?" (p. 98) Do these

changes in the rules for regulating utility companies reflect "a change of policy inspired by purely rate-making considerations?" (p. 139) If the changes are made retroactive (in order to build the reserves to the point they should reach), will this not work grave injustice to the company and to the future users of the services? Who can confidently say that it would have served the community interest more if straight-line depreciation had been used from the beginning of railroad and power company operations, and that the early ignoring of depreciation (thus keeping revenue charges low as an aid to getting service started) was less in the community interest?

In discussing (pp. 161-171) a committee report to NARUC in 1943 (after four years had been spent in the study of depreciation), the author finds several shortcomings. Too little notice is given to depreciation as it is dealt with outside public utility accounts. The historical discussion might with advantage have been amplified. The report fails to distinguish between depreciation as a decline in value and depreciation as systematic amortization of cost. There is an implicit assumption (shown by the space given to attempts to apply insurance methods to depreciation calculations) that depreciation is factual, whereas it is "the application of a number of conventional methods of allocation of the cost of property to accounting periods (p. 163)."

Akin to depreciation is the problem of writing off intangibles. Here the author again finds the views of government agencies diverging from the ideas reflected in general accounting practice.

He indicates that until recently such write-off has not been regarded as an accounting question; now, however, some people state that recognition of write-off has been mandatory in the past as a matter of accounting principle. It has been argued that write-off is necessary because the regulation of rates negates the possibility that utility companies could have excess earnings to explain their intangibles. Yet under theories now favored by the commissions, the author points out, regulation itself creates "a genuine and relatively permanent though limited intangible value in the case of any successful utility enterprise." This is true because demonstrated earning power (under rates that give adequate reward for risk) "can properly be capitalized at a lower rate of yield than that which a just regulation would award to the original risk-taker" (p. 153).

Since accounting does not attempt to record declines in enterprise value due to falling earning power, any proposal "to require amortization or elimination of intangibles has its basis in a conception of social policy rather than in accounting or in concern for the investor" (p. 154). This is the author's answer to assertions made in hearings before the Federal Power Commission that good accounting practice requires intangibles to be written off. He points out that the literature of accounting might be cited as supporting several treatments—write-off is permissible; it is wise; it is necessary in special cases. But there is little if any authority for the view that write-off is mandatory (p. 156).

The author also gives considerable attention to the historical background of the SEC. It was evident in the

middle 1920's that some corporations needed to be pushed to improve certain unsatisfactory financial and accounting practices. The New York Stock Exchange took the initiative in 1926 by appointing a committee on stock list to campaign for improvement. In 1930 a special cooperating committee was appointed in the American Institute of Accountants. The essence of the proposal which emerged in 1932 from these committees was that the listed companies should disclose the accounting methods employed by them, and public accountants should report whether the financial statements conformed with the representation made.

At about the same time the depression reached its depths in the midst of a political campaign. There were heavy losses in the security markets and loud calls for protective legislation. In spite of the fact, as the author believes, that inadequate or misleading financial statements played a relatively unimportant part in causing those losses, the Securities Act of 1933 and the Securities Exchange Act of 1934 were passed by Congress to put the issuance of securities under regulation and to use accounting as one of the important statutory instruments to that end.

In regard to this legislation the author makes a number of observations. The laws were not a result of prior judicious inquiry; rather they were statutes passed "under pressure of public indignation." They ran counter to "some of the most firmly established principles of English practice"; their penalty provisions, for example, were harsher than under English law. The laws impaired the professional status of public accountants; they took the responsibility for accounting rules out of the hands of the profession and placed it in the hands of a policy-making body; the grant of power to prescribe accounting procedures was "as unwise and unnecessary as it was inadequately considered." yet, he agrees that later experience has shown that the Commission has exercised with restraint its power to prescribe accounting rules and usually has consulted with the American Institute before accounting rules have been published.

Up to 1933 the stock exchanges were the arbiters of "reasonable disclosure," having always in mind the relatively different information desired by long-term investors and short-term traders in securities. This jurisdiction was then transferred to the Securities and Exchange Commission. As a result, the author points out, a body is established that is vested with the duty of preparing policy-making regulations and given functions suitable to a quasi-judicial institution. It is this body which sometimes seeks freedom from legal restraints by asserting the higher authority of accounting principles laid down by it; and sometimes, as a matter of regulatory expediency or administrative policy, it seeks to relax the applications of such principles.

In the light of these and other historical origins and legal circumstances, the author urges professional accountants to try to extend their public service through the Institute (1) by intervening to aid the courts since these bodies are not expert in accounting matters; (2) by cooperating with regulatory bodies and by accepting responsibility for the maintenance of complete indi-

vidual independence in relation both to clients and to government commissions (p. 265).

Some details about the theory topics discussed will help to characterize the remaining chapters.

When reasonable men find themselves on opposite sides in a discussion, it is most helpful to get the issue out in the open and try to gain an understanding of why there is an issue. The chapters which deal most with accounting theory are good reading because they do just this.

Sometimes the results of financial accounting are misunderstood because some users do not realize that the statements were not made up especially for them, and that reports are in fact made a compromise to give them a maximum usefulness for purposes as diverse as taxation, governmental supervision and price regulation, internal fiscal policy, dividend action and dividend legality, granting of credit, and evaluation of investments. Accounting is utilitarian, it is true, but this cannot be taken to mean that it is all things to all men.

Misunderstanding may also arise from failure to realize that accounting is conventional. That is, being influenced by the social and economic concepts of the time as well as by statutes and court decisions, accounting reflects at once both current habits of thought and customary types of action. Underlying an accounting debate there will often be found a question as to the extent to which customary ideas are being replaced by new ideas, or should be so replaced.

This basing of accounting on convention leads to the author's skepticism as to the existence of "accounting principles" (pp. 37, 38). The phrase is considered inappropriate also, because in earlier days it was likely to be used merely to awe a client into accepting a certain accounting treatment; and furthermore, because of late it has been used by utility commissions to avert judicial review of their decisions and to give an impression of permanence and inevitability to their ideas. The fact is, he points out, accounting rules are mere postulates, derived from experience and reason, that have proved useful and acceptable. They are like the rules of common law in many respects—changing as further experience brings greater wisdom; flexible to meet the peculiarities of many situations that seem alike yet vary in some significant way.

Though this is the nature of accounting, the trend of forty years has been away from the common-law mode of thought in accounting and toward the civil-code point of view of prescriptions and regulations. This growing emphasis on uniformity of methods and administrative convenience may prove to be a real disservice if it submerges the general usefulness of accounts in favor of some specific usefulness, and if it prevents the true individuality of enterprise and management from being clearly reflected in the financial statements.

Another source of misunderstanding is the evolutionary shift in the focus of accounting from an emphasis on the balance sheet (for short-term credit) to an emphasis on the income statement (for long-term investment). This may create a conscious or unconscious conflict between customary ideas and new ideas. The same

can be said of the persisting idea that the balance sheet should be expected to reflect values. This it cannot do because "the value of the enterprise is seldom a material fact," and if it were a fact "it can only be measured by looking ahead" (p. 8). He would be uninformed indeed who considered the financial statements as "looking ahead."

Users must bear in mind that financial statements are not reports of facts but rather the conclusions reached from applying a body of conventions to events and transactions. Statements cannot therefore be successfully made up according to a complete set of rules. This is true primarily because the accounts are in part "a reflection of the temperament and modes of thought of those responsible for their preparation" (p. 246).

Other topics in theory are given due consideration. The author views *Lifo* with some skepticism, and sees the debate over the cost-or-market rule as arising from the contact of older uses (balance-sheet emphasis) and newer uses (income emphasis).

Lifo is a variant of the base-stock method. This base was resisted by the Treasury Department when its use was urged as a counter-effect to the rise in prices (from an index of 100 to 250) in the decade after 1913. As a result of the Department's stand taxes were collected at that time on "large nominal profits due merely to increases in price level" (p. 48). In the decade after 1934 a discrete change in terminology was advanced and "last-in, first-out" has gradually come to be accepted by the Treasury Department.

The use of the *Lifo* method "no doubt serves to protect against the illusion of prosperity" from a rise in price levels (p. 176), but its use may nevertheless obscure the dangers inherent in the results of a fall in price levels.

If the primary reason that *Lifo* is growing in favor is the prospect of using it to reduce taxes in a period in which prices and tax rates are rising, it could be added that skepticism as to its fundamental soundness is fully justified. Yet it does not stand alone as an example of the way in which taxation influences accounting out of its natural framework of operation. If taxes cannot be determined by close adherence to the ideas that control the usual accounting computations of corporation net income, it perhaps would be just as well that the tax calculation should become a determination in its own right outside the framework of enterprise-managerial-investor accounting.

As to the cost-or-market rule, considerations of soundness and reasonableness "point to a restatement of the rule as requiring only a measurement of the cost that may properly be carried forward" (p. 183). In the discussion of "measurement" that then follows, a doctrine of "normal usefulness" of inventory and "minimum normal profit" on its sale is advanced as the clue to the amount that may properly be carried forward.

It is not made clear, however, why all amounts not thus carried forward should automatically fall into cost of goods sold. It seems a classification fallacy to treat an amount representing price shrinkage of goods that are not sold in a way to send it to join purchase cost of goods sold. And a doctrine of "normal profit" can hardly be a sufficient reason for creating a disagreement be-

tween the clear meaning of the name of a statistical category (cost of goods sold) and the content in dollars of that category.

It is puzzling that there is so little sentiment among accountants for making the income statement more truthful (as to the cost-of-sales item) by the device of an inventory reserve in the balance sheet. Perhaps it is because the Treasury Department is disinclined to accept the deduction of a flat percentage shrinkage of inventories. But the reserve could conceivably be calculated otherwise and with as much accuracy as the allowance for bad debts is calculated. Perhaps it is because the cost-or-market rule was brought into tax regulations at the insistence of accountants and they hesitate to reverse themselves. But ideas change in twenty years; inventory valuation is one of them that is in this process. Undoubtedly, if accountants really believed the application of the rule did materially misstate the cost of goods sold, they could succeed in convincing the tax authorities to accept a carefully calculated reserve to be deducted from the inventory item on the face of the balance sheet. A change in tax practice was once accomplished in connection with allowance for un-collectible accounts. Is another change beyond expectation?

Although the cost-or-market rule has long been established and "continues to occupy the leading position," the author clearly indicates that fixed rules to be observed by all companies may not be appropriate (p. 174). He suggests a research program (p. 183) for classifying industry according to the type of business carried on. Uniform methods of valuing inventory would no doubt fall into disfavor when the real diversity of circumstances was clearly revealed.

It may be noted that recent studies of the inventory question show that many complications in applying the rule conspire to shake the confidence of all but the most ardent advocates of cost or market. And the most bothersome question is why the figures of a current period should be adjusted for the purpose of assuring a profit in the next period's use of the inventory. Surely the objectives of accounting do not go so far as to direct that present profit be computed with a calculating eye turned toward assuring a profit at the next calculation. The profit calculation of the future must in the nature of the case depend primarily upon conditions prevailing then, not those of the present. It is clear that accounting calculations do not make profit; they can only reveal what is there, and that only in so far as the natural limits of accounting processes permit. When accounting presses upon this one of its several limitations, it is time to use the technique designed for such occasions—reserves.

In connection with the discussion of income and capital gains (Chapter XII) the author makes the pertinent observation that a classification, to be really useful, must be based on essential characteristics and not on mere names (p. 217). There is hardly a single accounting issue which will not be clarified by a thoughtful application of this truth. Accounting is incurably statistical in nature and real homogeneity of the data in each of its categories is a rock-bottom necessity.

Subdivision of surplus is an example of an accounting

(statistical) necessity. Without subdivision many "surplus" accounts are meaningless because their contents lack any real homogeneity.

The question of the proper treatment of capital gains is another example of a problem in homogeneity. Should capital gains be reported as income? The decision would seem to depend on (1) the concept of the category named "income" and (2) the characteristics of the items (such as capital gains) that show them to be relevant or irrelevant to that category.

The significance of capital gains from holding company shares varies greatly, the author points out, because of differences in sources. Some are caused by retained profits piling up behind the shares, some by an increase in the earning power of the corporation; others come from a fall in the value of the monetary unit (p. 223). To assign all such gains to income by rule might be to ignore a lack of true homogeneity. The author thinks the preferable practice is to exclude them, exceptions being made for cases in which circumstances show that treatment as income is clearly necessary and proper.

The problem of appreciation gets its share of attention in Chapter V. American thought for some time followed the British tendency to give a strong emphasis to recording fixed assets at cost without prohibiting the recording of appreciated values. But in recent years the propriety of recognizing appreciation came to be questioned in America. Under the influence of a long, sustained rise in price levels from 1896 to 1922, a theory developed that cost figures for fixed assets had gradually lost their significance. Under the influence of an apparently stabilized price level in the 1920's, a theory arose that the economy was operating upon a permanently high level of prices. Since these theories weakened the cost conception of accounting function, the value conception was correspondingly strengthened. As a result it seemed desirable that accounting should reflect the changes in the value of the monetary unit; the mechanism selected for accomplishing this was the increased depreciation charges resulting from write-up of fixed assets.

The reaction was clear. Wholesale write-ups produced unacceptable mixtures in the surplus accounts; appraisal surplus and earned surplus had to be segregated. There also was a tendency to look with disfavor upon asset write-up even when surpluses were carefully segregated. Later on past write-ups were condemned "as if they had been originally violations of a fundamental principle instead of being merely something that is outmoded today."

A complete exploration in the context of fixed asset accounting would no doubt call for more than a few paragraphs dealing with the subsequent problem of write-down, which occasioned a good deal of discussion in the 1930's. It also might call for further consideration of possible counter-arguments to the effect that recognition, however early, of appreciation (if it were allowed to affect undivided profits) was even then objectionable as a violation of the fundamental concept of profit, and that if there was no prohibition of its recognition at the time, this was merely because customary rules reflected usual situations and ignored the few ex-

ceptional situations as being without special significance. When the exception (asset write-up) became so common and so large in amount as to generate misrepresentation, perhaps even deceit, the former complicity in the face of infrequent violation of principle could no longer sustain itself.

It therefore seems that if something was outmoded, it was not an earlier good practice now out of favor, but an earlier failure to give exceptions a rightful place in their current accounting theory and practice.

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The Fundamentals of Accounting. Donald H. Mackenzie. (New York: The Macmillan Company, 1946. Pp. viii, 683. \$4.00.)

There are several claims which the author makes for this text. One is that it makes use of what he calls the "cost and revenue approach." This term is no more specifically defined than that this approach places "the emphasis upon costs and revenues instead of upon the balance sheet and statement of profit and loss." The philosophy of the Executive Committee of the American Accounting Association is cited as having provided the basis for this approach. One may conclude from the text material that it is the matching principle that gives rise to the expression, "cost and revenue approach." Another claim which the author makes for the text is its extreme flexibility. The text is said to be equally well adapted to emphasize accounting theory, to emphasize accounting as a tool of management, or even to emphasize mere bookkeeping techniques and procedures. One is told, too, that after Chapter VIII many of the chapters may "be omitted without affecting the continuity of the material" (p. vi); and even that any of the four chapters which deal with many of the "special problems that arise in matching costs with revenues . . . may be omitted without disturbing the sequence of the course" (p. vii). So far as the four practice sets are concerned, it is asserted that "regardless of how many practice sets are omitted the continuity of the subject is not affected."

The first eight chapters provide the "background material." Chapter I is titled "The Nature of Accounting." Its purpose is to impress the student with the very wide areas in which accounting data are used and useful, and then to indicate to him the various branches of the practice of accountancy. Some space is devoted to the thesis that under whatever type of political organization productive enterprise exists there is the need "to provide information that may be used to measure and increase the efficiency of the productive unit." It is just a little surprising to find this point emphasized by reference to the manner in which industry is organized in Russia and Germany (p. 4).

Chapters II and III define basic concepts for the student. Unfortunately very few of the italicized statements in these two chapters can qualify as logical definitions. (Indeed, the criticism can be made of the great majority of texts in accounting that statements intended as definitions mean very little to one who knows little or nothing about accounting.) Chapter II is titled "Revenues, Expenses, Profits," and the title indicates

the subject matter very well. The matching principle is illustrated by an apple trading venture in which a profit calculation is made by deducting expenses from a sales figure. "Expenses are inseparably connected with revenue" (p. 17). The idea of a financial deduction (bad debts and sales discount) is next introduced (p. 18), and it is also admitted (p. 19) that "the expense of matching some costs with the revenue with which they should be matched is too great." The chapter concludes with an illustration of a fully classified profit and loss statement in which sales returns and sales discount are subtracted from sales, in which bad debts is treated as a general expense, and in which calculations are made of an operating profit and a net profit before Federal taxes.

Chapter III deals with the balance sheet, "sometimes called a statement of financial condition" (p. 30). At this point (despite the cost and revenue approach) the author finds it necessary to "recognize two different types of assets: (1) Certain property rights such as cash, claims for cash, and investments, and (2) Assets which are simply costs to be deducted from the revenues of future accounting periods" (p. 31). Nor does this cost and revenue approach seem adequate either to explain the propensity of accountants to record liabilities and proprietorship, or to explain why "the assets will always equal the total of the liabilities plus the proprietorship" (p. 37). Reserve for depreciation and reserve for doubtful accounts are introduced in this chapter. The chapter closes with a balance sheet which exhibits six classifications.

Not until Chapter IV is the idea of an account introduced. The first italicized statement concerning an account is as follows: "An account is a record of an asset, a liability, the proprietorship, a source of revenue, or an expense" (p. 47). To "rationalize" debits and credits for asset and liability accounts the author makes use of the balance sheet equation; but no "rationalizing" is done to derive a rule for debits and credits with respect to income and expense accounts. The cost and revenue approach seems totally incapable of explaining why there should be such a thing as a trial balance, or even that there is any logic behind double entry bookkeeping. (Incidentally, not until Chapter IX is the student informed that books of original entry are a part of bookkeeping paraphernalia.)

Adjusting entries are introduced in Chapter VI, and closing entries in Chapter VII. The matching principle provides the logical framework from which to develop the mechanics of adjusting entries, but this principle does not seem to be equally effective in providing the basis for closing entries. Chapter VIII introduces the student to merchandise transactions, to a cost of goods sold account, and to the accounts which go to make up this summary account.

Chapters IX through XII are generally concerned with acquainting the student with special and multi-columnar journals. Control accounts are introduced incidental to this presentation. In the Preface the author calls particular attention to the fact that the student is taught to use special journals before he is taught the use of the general journal.

A chapter is devoted to the work sheet (XIII), and to promissory notes, their recording in their various

manifestations and the computation of interest thereon (XIV).

Chapter XV discusses the principles which underlie the preparation of classified profit and loss statements, and Chapter XVI undertakes the same task with respect to classified balance sheets. A chapter on "The Use of Revenue and Expense Data" introduces such terms as unit costs, fixed and variable expenses, direct and indirect expenses, out-of-pocket costs, increment and decrement costs. Three chapters follow this which deal with particular applications of the matching principle. Discussed are such topics as reserve for sales discounts, the methods of inventory valuation, and methods for computing depreciation, depletion, goodwill, repairs, replacements, and additions.

At this point the general scheme of development is interrupted with a chapter on cash control and payroll accounting and a second chapter which explains the voucher system. Then follows one chapter devoted to departmental accounting, two chapters devoted to non-cost manufacturing accounting, and one chapter devoted to cost accounting. Chapter XXVII, titled "Other Cost Concepts Applied to Manufacturing Problems," is designed to indicate how analysis of expenditures into sunk costs, increment and decrement costs, fixed and variable costs, may be made to provide a guide to pricing policies, to determine whether products or territories should be eliminated or whether it is wise to replace a given machine.

The two chapters on partnership accounting are very similar to such chapters in any other introductory text. In the three chapters dealing with corporation proprietorship, the author has faced more candidly than is usual the divergence in this area between what is legally permissible and what accountants often recommend as desirable. "The opinions of accountants are not entirely in accord with prevalent ideas of the legal profession. They are however pretty much in agreement with certain noted legal authorities on corporation law. The accountant is heartily in accord with almost all the capital stock and dividend provisions of the California statute" (p. 573). The proprietorship of the corporation, it is taught, is to be divided into two "fundamental" parts, paid-in-capital and earned surplus. The chapter on corporation bonds gives a very complete treatment of the bond premium and bond discount accounts. Amortization tables are said to be "scientific" when based upon the compound interest principle.

The last two chapters deal with Analysis of Financial Statements and Budgetary Control.

Enough has already been said to indicate that it is this reviewer's opinion that this text uses much more than the cost and revenue approach in the exposition of those fundamentals of accounting presented. This, of course, does not mean that the text is thereby judged to be unsatisfactory. The author states that the approach of the book has been used at the University of Washington for the past five years. The advantages claimed for the approach used by the book are most impressive. In the first place, the approach is said to emphasize for the student the fact that the management ought to have and use information which the conventional balance sheets and profit and loss statements

supply in "very limited amount." In the second place, the approach is said to "reduce greatly" the teaching time of many topics.

A final word should be said about the flexibility in the teaching of accounting which is said to be possible with this text. In the thirty-five chapters of text material there is scarcely a topic omitted which is found in any introductory text. This means that every teacher probably will find covered those topics which he considers "musts." It probably also means that it would be difficult to cover all these chapters in the ordinary year's course. To omit chapters is said to be neither fatal nor even undesirable. At the end of each chapter there are approximately twenty questions and problems "for class discussion," and ten laboratory problems. All these problems are in addition to the four practice sets referred to earlier. This wealth of material certainly will give wide discretion to every teacher of accounting who adopts this book.

R. C. DEIN

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Practical Financial Statement Analysis (Textbook edition). Roy A. Foulke (New York: McGraw-Hill Book Co., Inc., 1945. Pp. xx, 681. \$4.50.)

Above all, this is an interesting book, easy to read and hard to put aside. Furthermore, it is no mere theorizing but is full of useful information. The author's experience in analyzing financial statements and his access to a huge volume of data are evident. (Mr. Foulke is a vice-president of Dun and Bradstreet, Inc., and was for many years manager of its Specialized Report Department.) The book is carefully compiled and the material is presented in highly usable form, but it is the background of experience which makes the book valuable.

Since this is far from being a standardized publication, it seems important to give considerable space in its review to its form and organization. There are seven sections in the book, each one with a preface pointing out the purpose of the section and the techniques introduced, and calling attention to limitations to be observed in the use of the material. The seven subjects covered are the background of analysis; the analysis of small business enterprises; internal analyses of balance sheets; comparative analysis of balance sheets; profit and loss statements; surplus accounts; and the recent evolution in accounting theory and practice.

Most of the chapters deal with techniques of analysis and follow a somewhat uniform pattern. An absorbing history of the evolution of the technique is followed by or mixed with a discussion of the theory behind it. Then come illustrations of its use applied to several dissimilar businesses, based upon financial figures for a three-year period. These are followed by a table of typical ratios or other indexes for many lines of business activity for each of five successive years, 1939 through 1943, along with their averages. Conclusions are expressed in a "maxim," qualified by warnings as to limitations in the use of the technique. Finally, questions and problems are available for classroom use.

Several other features seem important to mention.

Many footnotes appear throughout the book, principally referring to other literature upon the subject being discussed, but often calling attention to other points of view. There are twenty-six forms illustrating such varied things as financial statements of the nineteenth century and modern break-even charts useful in budgeting. An appendix presents a comprehensive 1943 table of fourteen important ratios with interquartile range for seventy-two lines of business activity.

One of the pleasures in reading the book stems from the illustrative cases. Those who find enjoyment in working puzzles or attempting to solve crimes along with the master detectives of fiction will experience a unique (and healthier?) satisfaction in drawing conclusions from the financial figures presented in each case study and then comparing their conclusions with those of the author.

With a volume as comprehensive as this, one hesitates to suggest that other material might desirably have been included. Yet, in comparing balance sheets from year to year, it would seem important to express account changes in percentages of the first or base year, to supplement or possibly replace the practice of showing the changes exclusively in dollar amounts. The percentages applying to the various accounts can be compared with each other more satisfactorily than can the dollar figures.

Another suggested inclusion concerns profit and loss analysis. When it is possible to obtain volume changes in sales (as distinct from sales price changes), a "Variations in Profit Report" showing variations due to changes in selling price, in unit cost, in volume, and in the expenses of various departments can be worked out to help allot responsibilities for profit fluctuation. This, it would seem, might be included for management's benefit. It should be noted, also, that the use of unit costs in statement analysis is not described.

The text gives more emphasis to the analysis of the balance sheet than to the profit and loss statement. Perhaps the author intended it that way; for management, he feels, is already conscious of what the profit and loss statement discloses. In regard thereto he makes the following interesting comments:

"Over a period of years, the author has found that the typical business executive knows his profit and loss statement forward and backward. . . . Probably not more than one business executive out of ten gives the slightest particle of intelligent thought or analysis to the balance sheet of his business. If he recognized the implications in the relationships between items in the balance sheet as clearly as he sees the implications of the relative size in individual items in comparative profit and loss statements, he would realize the effect that operating policies which anticipate profits and losses have upon the future financial condition. With this understanding, he would be more careful in making decisions which so often result in anxiety, sleepless nights, and the necessity for the subsequent study of the income and expense figures."

Mr. Foulke's book will have a fairly broad appeal, particularly because only an elementary knowledge of accounting seems necessary to its use. The aid it might

give to the business man, credit man and investor is quite obvious. Even the public accountant should find use for it: from the book he could gain a clearer understanding of what others expect to find in the financial statements he prepares. Furthermore, he might enrich these financial reports by comparing indexes prepared from the client's accounts with those for similar businesses quoted from the book.

Finally, instructors will find this a useful text. Recently, an association of controllers in the City of Seattle voiced the opinion that a course in accounting analysis was the most important one in the curriculum of a student training for a controllership. Here, then, is a text well suited to this recognized need.

ARTHUR N. LORIG

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Cost Accounting Bibliography, Indiana Business Studies, Study No. 28. A. L. Prickett. (Bloomington: Indiana University, School of Business, 1945. Pp. 470.)

The lithographed volume includes more than 8400 source titles on cost accounting subjects, obtained from the accounting periodicals of this country; publications of trade associations, individual companies, universities, chambers of commerce, and the government; foreign publications (mostly from parts of the British Empire); and a large number of books. Over 700 different magazines or publishers are represented. In the author's words, it "includes publications from 1890 to July, 1944. It is not all inclusive but is limited to the bibliographical sources in the field of accounting that were available."

A great variety of sources is presented, and this bibliography is no doubt a valuable contribution. However, the method of listing is not very satisfactory from the point of view of the typical user. Punched card tabulating equipment was used in compilation, cards being prepared for author, title, and source, with additional information in the form of columns of code numbers for date, subject classification, etc. The sorting and listing were made alphabetically by author; consequently, users not familiar with or interested in particular authors but desiring references on "Labor," "Materials and Inventories," "Overhead," or any other of the eighteen subject classifications of cost accounting information adopted, must familiarize themselves with the code numbers of the subject matter they seek and then run down the columns page by page hunting those code numbers. To be sure of the best possible list of references for a given subject it would be necessary to go through the entire 470 pages.

A better arrangement, quite easily possible merely by a different sorting of the cards before printing the book from the cards, would have been to subdivide the references into the eighteen subject classifications. For the convenience of users seeking particular authors, listing within those subdivisions could have been as now, alphabetically by authors.

The method of listing used by the author was adopted, he explains, to conserve paper; however, the suggested arrangement would have been equally saving of paper.

Obviously much time and effort were expended in gathering and compiling this extensive list of references. In spite of possible difficulties in use, it may prove very valuable to those who seek source material on cost accounting.

G. D. BRIGHTON

University of Illinois

The Social Problems of an Industrial Civilization. Elton Mayo. (Boston: Harvard University Graduate School of Business Administration, 1945. Pp. xvii, 150. \$1.50.)

The Social Problems of an Industrial Civilization "is the second in a series of books by Professor Elton Mayo, now planned to be three in number. Jointly they will present selected aspects of over a quarter century of clinical research in industry. This research has been carried on in an effort to get a better and more fundamental understanding of human relations—that most neglected of subjects—and how to improve them." (Foreword, page vii.) The earlier book was entitled, *The Human Problems of an Industrial Civilization*. The book in prospect will be entitled, *The Political Problems of an Industrial Civilization*.

This little book of 150 pages is interesting and stimulating reading. Professor Mayo's thesis might be stated somewhat as follows: With the development of industrial civilization we have moved from an "established society" to an "adaptive society." This transition has been accompanied by, and in many ways been the result of, a very remarkable and spectacular development and growth of the physical sciences. The social sciences have not kept pace. To quote Professor Mayo: "If our social skills had advanced step by step with our technical skills, there would not have been another European War" (page 123).

This thesis is developed under these six interesting chapter titles:

1. The Seamy Side of Progress
2. The Rabble Hypothesis—and its corollary, the State Absolute
3. The First Inquiry (The Clinical Approach)
4. Hawthorne and the Western Electric Company
5. Absenteeism and Labor Turnover
6. Patriotism Is Not Enough

Professor Mayo is very critical of the Social Sciences. The following quotations, separated from their context, are representative: "The so-called social sciences encourage students to talk endlessly about alleged social problems. They do not seem to equip students with a single social skill that is usable in ordinary human situations." "The result is that those graduates of brilliant achievement who lead the procession out of the universities are not well equipped for the task of bringing order into social chaos. Their standard of intellectual achievement is high; their knowledge-of-acquaintance of actual human situations is exceedingly low. They dwell apart from humanity in certain cities of the mind—remote, intellectual, preoccupied with highly articulate thinking. They have developed capacity for dealing with complex logic, they have not acquired any skill in handling complicated facts." "The consequences for society of the

unbalance between the development of technical and of social skill have been disastrous. If our social skills had advanced step by step with our technical skills, there would not have been another European War: this is my recurrent theme" (pp. 20-23).

It would probably be rather difficult to substantiate this "recurrent theme." Warfare has been a rather large part of human experience, even before the advancement and development of the "technical skills." The peoples of the so-called "established societies" also spent a great proportion of their energies and substances in conflict and inter-tribal warfare.

The margin between the achievements of the two fields of science (the physical or technical and the social) is very likely not as great as the author of this book has indicated. There is much yet to achieve in the area of technical skills—for example, the control of various destructive pests and diseases—and actually much has been achieved in the area of the social skills. The demonstration in the United States of the "Democratic Way of Life," with all of its economic and political defects, is an achievement in the area of social skills that does not compare unfavorably with the production of the atomic bomb in the area of technical skills.

However, it is exceedingly worth while for this criticism and challenge to be directed at the social sciences. These social sciences must accept the responsibility for analysis and understanding, and they must provide the social skills necessary for meeting and handling the social problems of our modern dynamic or adaptive society. Society can well afford to finance extensive and costly experiments made by the social sciences, as it has done in the past in the field of the physical sciences.

Professor Mayo points out the importance of "group" membership and relationships in the field of industrial production. He says, "... in industry ... the administrator is dealing with well-knit human groups and not with a horde of individuals" (p. 111). As a result of experiments conducted in a textile mill near Philadelphia and in the Western Electric Company at Hawthorne, the author shows that by the creation of a spirit of "team work" in these industrial plants production was increased, and labor turnover and absenteeism were greatly reduced. The author believes that the development of this willingness to cooperate is extremely important, not alone in the area of industrial production but in all human relationships—especially for the prevention of war.

The Social Problems of an Industrial Civilization is a very valuable contribution to our thinking in these days. It is interesting, it is stimulating, it is timely, and it is practical.

CHARLES N. BURROWS

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Directors and Their Functions. John Calhoun Baker.
(Boston: Harvard University Graduate School of

Business Administration, 1945. Pp. 138. \$2.50.)

This is a preliminary study of a neglected factor in business organization. In the postwar world the directors will have to pool their weight if the private corporation is to defend its position as an effective organism serving the public interest.

The author studied the current practices and opinions concerning the operation of boards of directors of many American industrial corporations. He collected his data by correspondence, interviews and study of the minute books. His findings are as diverse as the personalities and special problems involved, and he shows proper caution about broad generalizations or any magic formula for drawing an ideal board of directors. Nevertheless, he has drawn an interesting picture of several significant trends. His four case studies, covering the American Tobacco Company, the Climax Molybdenum Company, the General Foods Corporation, and the Standard Oil Company of New Jersey, illustrate the wide variation in practice.

The author suggests three aspects of the complex background of the corporation problem which more than justify this examination of the directors' functions: "The separation of ownership from management, the growing social significance of the corporation, the emerging concept of trusteeship" (p. 2). This last aspect is most intriguing but still lies largely in the future, judging by the paucity of evidence unearthed by the author.

Within the limits of this short treatise, the author has presented a revealing picture of the contribution which a director can make, as a member of the board through his discerning questions, and as an individual, through his availability for consultation as an elder statesman or by reason of his special competence. The importance of strict separation of the executive function from the director's function is properly emphasized. The pros and cons of "inside" vs. "outside" directors are examined and well illustrated in the four case studies, with the expected conclusion that "it depends." A separate chapter is devoted to the board chairman, showing his importance as a leader of the board and special scout for executive timber, instead of a harmless superannuated discard from the battle of management.

The growing realization of the broader scope of directors' functions is shown by the author's report of an increasing reluctance of many men to accept directorships. They realize that the problem is vastly more important than merely the protection of stockholders and their interests, or the special advantages of top management. "It is the reconciliation of private enterprise with the smooth functioning of a democratic society with justice to all groups; stockholders, executives, employees, creditors, customers and the public" (p. 138). This calls for qualities of trusteeship akin to statesmanship.

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